

Hawk



1
AEROGUIDE British Aerospace Hawk T Mk 1

Aviation – especially military aviation – is a subject that has immense popular appeal, a fact that is reflected in the vast and continually increasing number of books, journals, magazines, monographs and photo albums devoted to it. There is indeed a veritable plethora of published literature, ranging from introductory reference books, through topical periodicals, to erudite discourses, but, despite this, certain areas of interest remain relatively poorly catered for, whilst methods of presentation tend to show a healthy regard for the traditional.

AEROGUIDES have a number of aims, but all converge towards the idea of providing the enthusiast and lay reader with a refreshingly different kind of aviation booklet. Each volume, for example, considers one particular aircraft type and records its configuration by means of some sixty photographs of very large format, almost all of which are specially prepared close-up views showing the external appearance of the subject in great detail. Complementing the photos is a double-page spread of 1/72 scale drawings showing an individual machine representative of the type and serving both as an accurate set of scale plans and as a guide to the aircraft's colours and markings. The back cover carries full-colour artwork (showing a contrasting aircraft) which may be detached and mounted as a Collectors' Profile, and additional profiles towards the end of the booklet are included to show further variations in finish.

AEROGUIDE 1, perhaps appropriately, portrays the BAe Hawk – the most recent military aircraft of all-British design and production and a hugely successful one at that. It is also one of the most aesthetically pleasing aircraft in service today. Totally familiar as the machine employed by the world-renowned *Red Arrows*, it is destined to become as well known across the Atlantic as it is 'at home', since, in slightly modified form, it is due to be procured by the US Navy in large quantities as the T-45 trainer. The photographs included throughout the following pages show the aircraft in most of its present guises, but concentrate on camouflaged Hawks operated by the RAF's No 2 Tactical Weapons Unit.

Clearly, the production of this booklet would have been impossible without the full support and generous co-operation granted by the Royal Air Force, and in this connection the publishers would like to express their appreciation to Sqn Ldr R Scott of RAF Chivenor in particular, and to the members of Nos 63 and 151 Squadrons based at that station. Thanks are also due to Tony Talbot at RAF Strike Command HQ for his industrious liaison work. For help with photographs the publishers are grateful to Paul Chesterfield of RAF Support Command HQ, to Mike Stroud of British Aerospace, to Brian Limbrey of the Martin-Baker Aircraft Co Ltd and to Dick Ward of Modeldecal. All uncredited photographs are copyright Linewrights Ltd.

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INTRODUCTION

Familiar to everybody as the aircraft used by the famous *Red Arrows*, the Royal Air Force Aerobatic Team, the BAe Hawk has quickly made a name for itself as one of the most reliable, and most versatile, military jets in the world today. Although essentially a trainer – with all the forgiving characteristics which that particular role demands – it is also a highly capable ground attack aircraft and can, moreover, perform as a point defence interceptor.

The Hawk's versatility stems partly from the fact that it was designed to fulfil tasks previously undertaken by two different aircraft: advanced flying training, up until the late 1970s the province of the Hawker Siddeley (Folland) Gnat; and weapons training, hitherto carried out by the Hunter. Both these roles were originally to have been played by the Anglo-French Jaguar (see *AEROGUIDE 2*), but when the Jaguar proved so effective as a strike aircraft – and rather too expensive as a pure trainer – a new design quickly had to be sought. To the great credit of the manufacturers, the slot was filled not only speedily but also very effectively, for the Hawk has surpassed its design objectives in virtually every department.

The Hawk, developed by Hawker Siddeley as the HS.1182 and originally in competition with the British Aircraft Corporation's P.69 project, was ordered in the summer of 1972 and first flew in August 1974, the sole

pre-production aircraft being serialised XX154. Five further Hawks (XX156–160) were used for flight trials, and in late 1976 the first of 175 aircraft, later supplemented by an additional 18, were delivered to the Royal Air Force.

CONVENTIONAL CONSTRUCTION

The Hawk's powerplant is the Rolls-Royce/Turboméca Adour Mk 151 turbofan, delivering 5200lb of thrust at sea level and giving the aircraft a top speed of 560kt. This particular engine was ideally suited since it was a proven piece of equipment yet one which was still at a comparatively early stage of development, thereby offering the prospect of improved-performance Hawks in the future. The choice of the Adour also meant that only one was required to be installed in each airframe, thus reducing maintenance and fuel consumption, and hence cost.

Ease of maintenance also goes some way towards explaining the Hawk's remarkably simple lines: in these days of ultra-thin aerofoils, twin fins and variable-geometry intakes, the airframe smacks of sound common sense rather than futuristic innovation and supersonic capability. Nevertheless, despite the emphasis on strength, durability, internal fuel capacity, light weight and good low-speed characteristics, the Hawk wing is capable of taking the aircraft through to Mach 1.2 (dived), considerably in excess of the design requirements. Its

low-set position in relation to the fuselage also affords a 'traditional' wide-track undercarriage, which may penalise underwing ordnance but on the other hand gives maximum stability in landing (a strong consideration in a training aircraft), simplifies retraction gear and frees fuselage space.

The fuselage itself is built following conventional frame-and-stringer construction, its principal components being, from front to rear: forward equipment and nosewheel bay; tandem cockpit; 180gal fuel tank; and Adour powerplant. Roominess and ease of maintenance, again, are the keynotes: the field of view from the cockpit is equally impressive from front or rear seat for example, whilst an engine change can be effected in an hour and a half.

RAF SERVICE

Hawks appear in RAF markings wearing three different liveries. Red/white aircraft equip No 4 Flying Training School (4TFS) at RAF Valley in Anglesey; camouflaged aircraft are based at RAF Brawdy in South Wales, where they equip No 1 Tactical Weapons Unit (1TWU) and at RAF Chivenor in Devon (2TWU); and of course there are the *Red Arrows*. All these aircraft, despite the differing

Below: A Hawk T Mk 1 wearing the livery of No 4 Flying Training School. In the background, left, is an HS Gnat. Ministry of Defence (RAF)





natures of their duties, are designated T Mk 1.

There is, however, one other UK-based Hawk – the Mk 50 owned by British Aerospace and retained by the manufacturers as a company demonstrator, registered G-HAWK/ZA101. The overseas visits of this particular machine – together with the exploits of the *Red Arrows* – have much to do with the current growth in Hawk export achievement, and in selling BAe's product it has appeared in a number of appropriate colour schemes.

Typically, RAF TWU Hawks are armed with a centreline 30mm Aden cannon pod and stores (for example rocket pods or practice bombs) on two wing pylons, but in 1980 it was decided to equip about half the machines on strength to carry, if required, Sidewinder air-to-air missiles.

IMPROVED VARIANTS

Hawk development continues apace: to date two improved variants have been produced; further, more far-reaching changes are in prospect. The T Mk 50 series provides for a higher take-off weight, a greater load capability (five instead of three pylon stations) and external wing fuel tankage, plus other improvements (including a wider range of options concerning avionics, an optional brake parachute and various powerplant modifications); and the T Mk 60 is fitted with an Adour engine of greater thrust, offers still greater external fuel capacity, has enhanced external ordnance capacity (including air-to-air missiles, in pairs, on the outer wing stations) and wing, flap and cockpit modifications.

Under development is the '100 Series' Hawk, which is a specialised

ground attack version with improved navigation/attack systems, passive radar, HOTAS (hands on throttle and stick) fits, etc, whilst a single-seat Hawk is a possible option for the future, using the space freed by the second crewman for additional fuel and electronics.

By far the most radical development, however, is the T-45, a modified Hawk designed to meet the US Navy's VTXTS requirement for a new training system, the aircraft element of which requires the replacement of existing TA-4s and T-2s: this calls for a small number of modifications to ensure carrier compatibility (revised engine casing and undercarriage, and an arrestor hook) plus new avionics and cockpit equipment. Externally the T-45 will differ from earlier Hawks principally in having a deeper forward fuse-



Above: An April 1983 photograph of XX252, one of the ten Hawks that equip the *Red Arrows*, the RAF Aerobatic Team. These aircraft differ from others in RAF service only in minor detail: the most obvious change, evident here, is the adapted Aden cannon pod which serves as a three-compartment tank for the diesel oil and red and blue dye for smoke-making. **RAF Official**
Left: Hawks are also in service with Nos 1 and 2 Tactical Weapons Units based at, respectively, RAF Brawdy and RAF Chivenor. This August 1982 photograph was taken at Chivenor and shows an aircraft in the markings of No 63 Sqn. Modifications to fit the Hawk for the Sidewinder missile will give the aircraft a potent air-to-air capability.



lage and twin, side-mounted airbrakes. BAe's partners in this enterprise are the McDonnell Douglas and Sperry Rand Corporations. Service entry is scheduled for 1988 and, reportedly, some of the first US Hawks will equip the Navy's *Blue Angels* display team.

GREAT ACHIEVEMENTS

The Hawk is undoubtedly in a class of its own: no aircraft of comparable role can match it for reliability, adaptability, economy of maintenance or overall cost-effectiveness. Confirmed sales now stand at over 300, with a similar number in prospect to fulfil the VTXTS requirement; US endorsement can hardly be expected to discourage

further orders, and British Aerospace is currently negotiating with a number of potential customers interested in the aircraft.

Fears expressed in some quarters over in-service attrition stemming from reliance on a single engine have proven unfounded: the Hawk has probably the best safety record of any military jet aircraft to see front-line service. As improvements are gradually introduced, as the Adour develops in rating and as the single-seater version of the aircraft becomes a more and more likely proposition, it is clear that the Hawk is on course to emulate, perhaps surpass, the great achievements of the famous aircraft to which it is the heir.

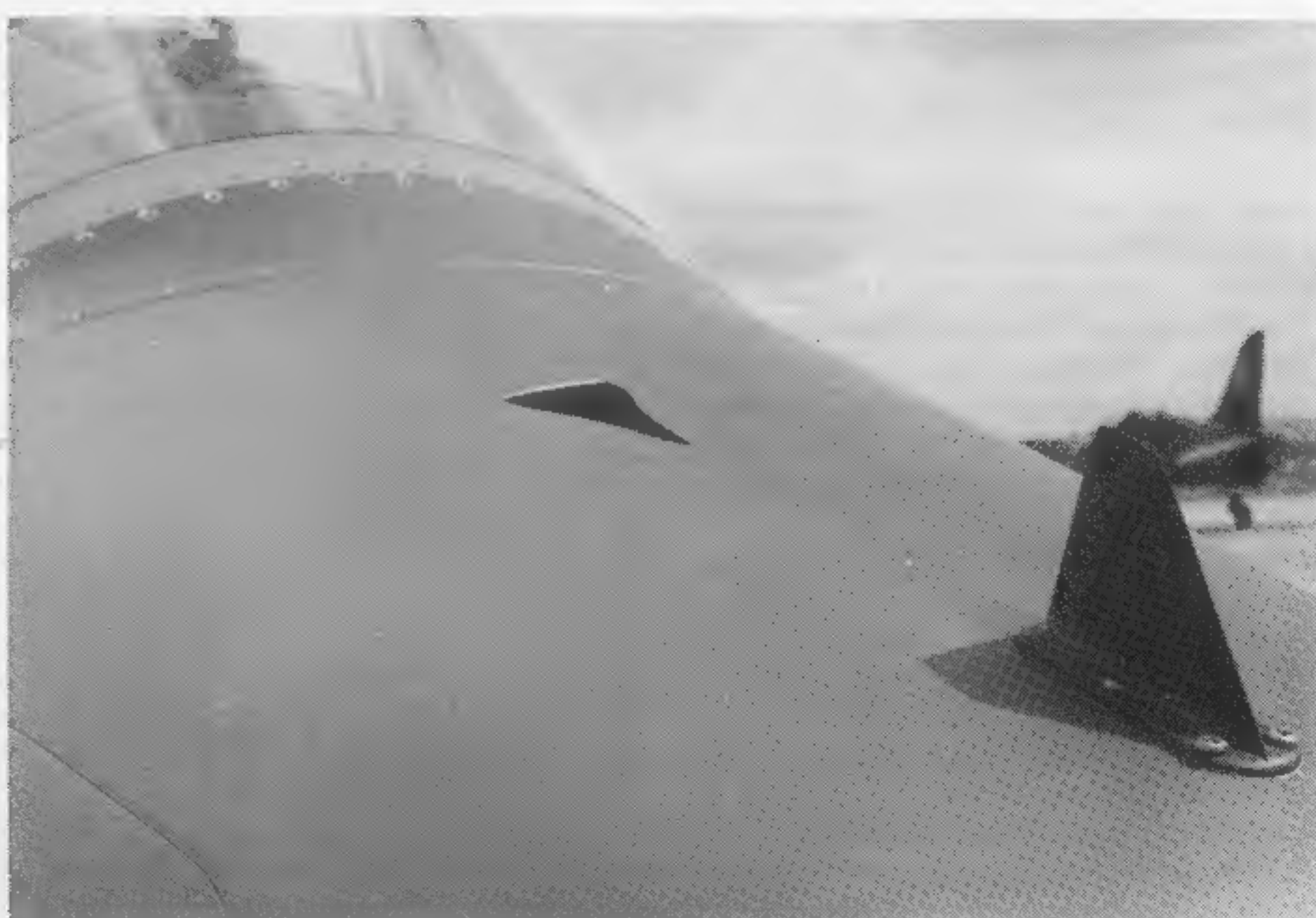
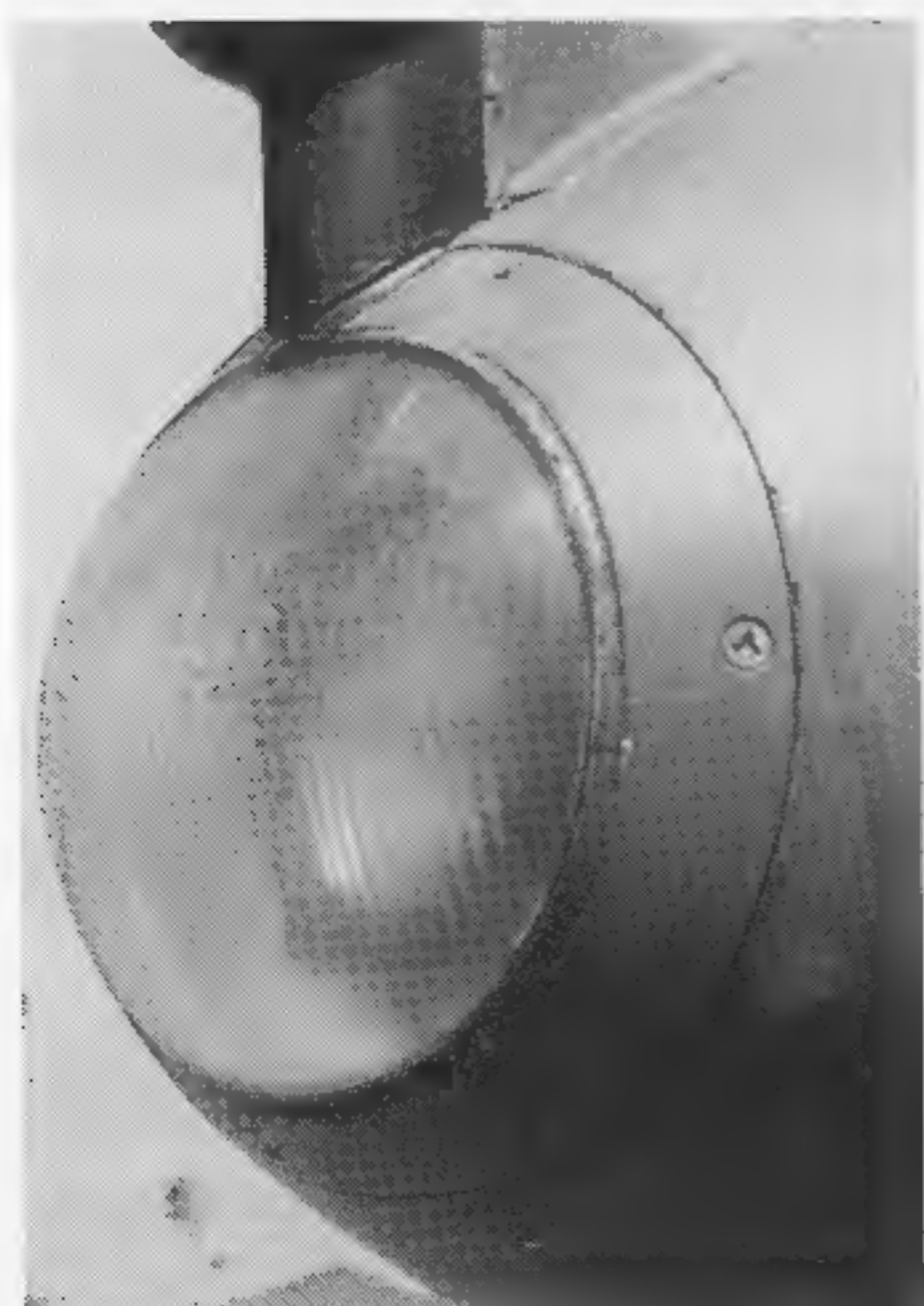
Top: Finland was the first export customer for the Hawk: fifty Mk 51s are being purchased, the majority of which are being assembled by the Finns. Production is eased by the one-piece design of the aircraft's wing, attachment to the fuselage being via six bolts. Here a Finnish Hawk is being readied for shipment. *British Aerospace*
Above: Further orders have been placed by Kenya (officially 'an undisclosed African country'), for 12 Mk 52s; by Indonesia, for 20 Mk 53s; by Zimbabwe, for 8 Mk 60s; and by the United Arab Emirates, for a number of Mk 60 series aircraft (believed 24). An order for 25 Hawks is reportedly being placed by Algeria. The photo shows an Indonesian example. *British Aerospace*

AIRFRAME

Below: Nose contours, showing the access door to the forward equipment bay (avionics compartment); the starboard side of the fuselage shows the same arrangement. Camouflaged Hawks in RAF service continue the Dark Sea Grey/Dark Green pattern round to the undersurfaces, as the colour of the port nosewheel door here indicates.

Bottom left: The Hawk's landing light is situated in the extreme nose of the aircraft; unlike lamps carried, for example, on nosewheel gear, the surface is exposed to the elements at all times and deteriorates accordingly. Chipping of the paintwork around the rim of the lens frequently reveals the yellowish zinc chromate primer

beneath. Note the black shrouding along the forward edge of the pitot tube fairing; the tube itself is natural metal. **Bottom right:** Fitted to the upper surfaces of the nose is an IFF (Identification Friend or Foe) aerial, held with six screws; the leading edge is generally to be seen with a black protective strip. Note air intake behind.



Below: A No 4 FTS Hawk undergoes cockpit maintenance at RAF Valley, October 1981; the photograph clearly shows the aircraft's sideways-hingeing canopy, and note also the open forward equipment bay doors. The current colour scheme, as depicted here, differs from that adopted by early No 4 FTS Hawks in having white nose numerals

instead of black and in carrying a larger (though less complete) unit badge on the fin. No 4 FTS is not the only establishment at Valley: the station is also 'home' for the Central Flying School (which trains Hawk instructors) and for the Standards Squadron. Maintenance for these units and the three squadrons that comprise No 4

FTS is the responsibility of the station's Engineering Wing and is undertaken at 150-flying-hour intervals, major servicing being carried out by No 5 Maintenance Unit, at RAF Kemble, after 1200 hours. Kemble was in fact until recently the home base of the *Red Arrows* Hawks as well, but the Team has now moved to Scampton. *Ministry of Defence (RAF)*



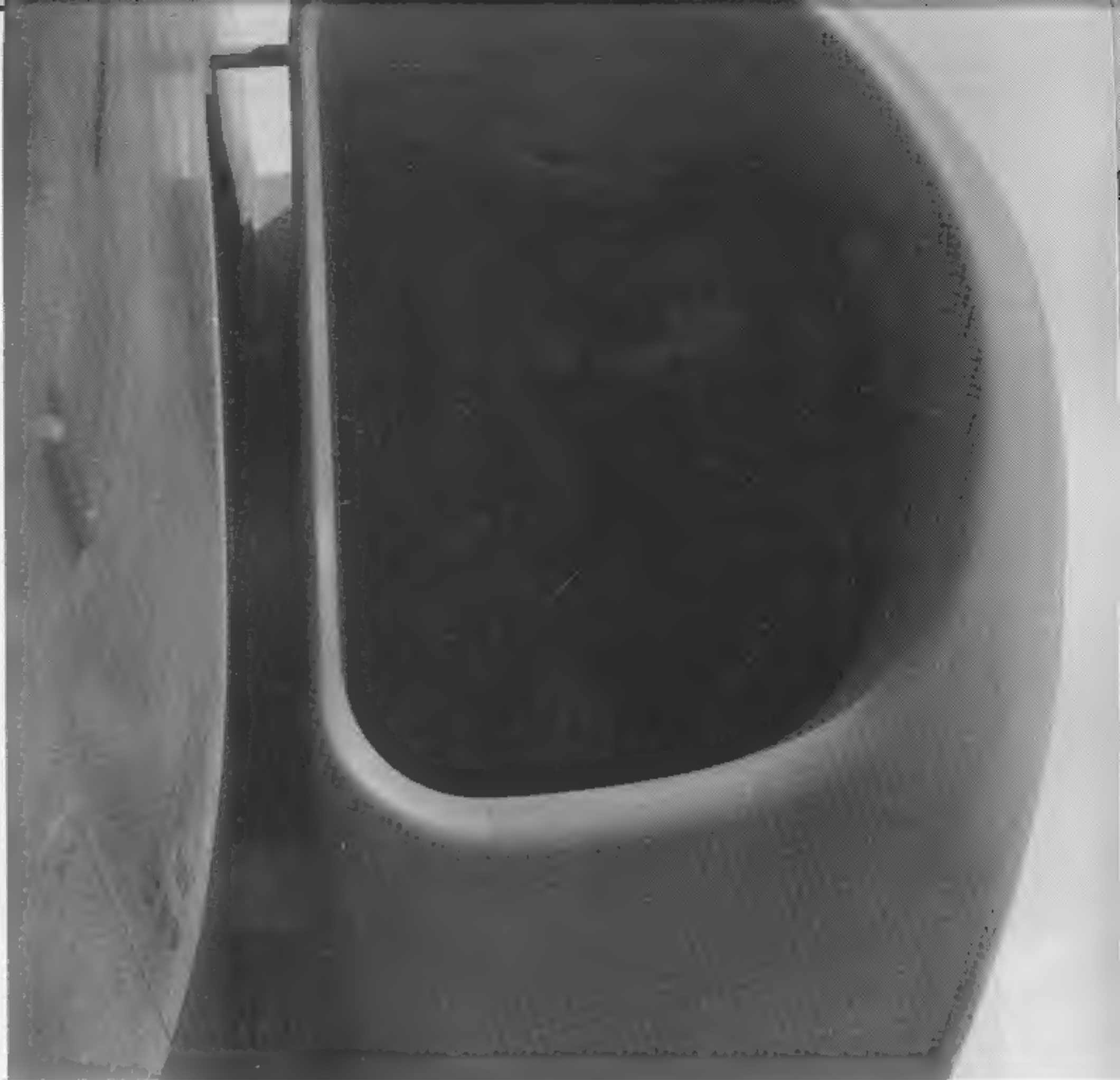
Right: Port main intake detail, showing rounded rim and inboard bracing struts.

Below: The Hawk's fuelling point is situated on the port main intake, just above and forward of the wing root. The stencilling above shows a distinct American influence!

Below right: Two crew entry steps are fitted below the cockpit on the port side: the upper is a 'push-in' foothold but the lower (shown) is extendible. Note the blade antenna behind and, far left, part of the forward trestle-point markings.

Opposite page, top: Forward centre fuselage section and main intake fairing, starboard side. The ram air intake behind the cockpit canopy is associated with the aircraft's cabin air conditioning system. Note hoist symbol.

Opposite page, bottom: The forward centre fuselage on the port side generally mirrors the layout on the starboard side, except for the fuelling point. Note the dorsal UHF antenna with, next to it, one of the two heat-exchanger exhausts; further forward is the dorsal anti-collision beacon, whilst at the far right edge of the photograph are cooling grilles for the gas turbine starter which fires the main Adour powerplant. Above the wing root is a fuel system access panel, and higher up, to the right, is a fuel air vent.



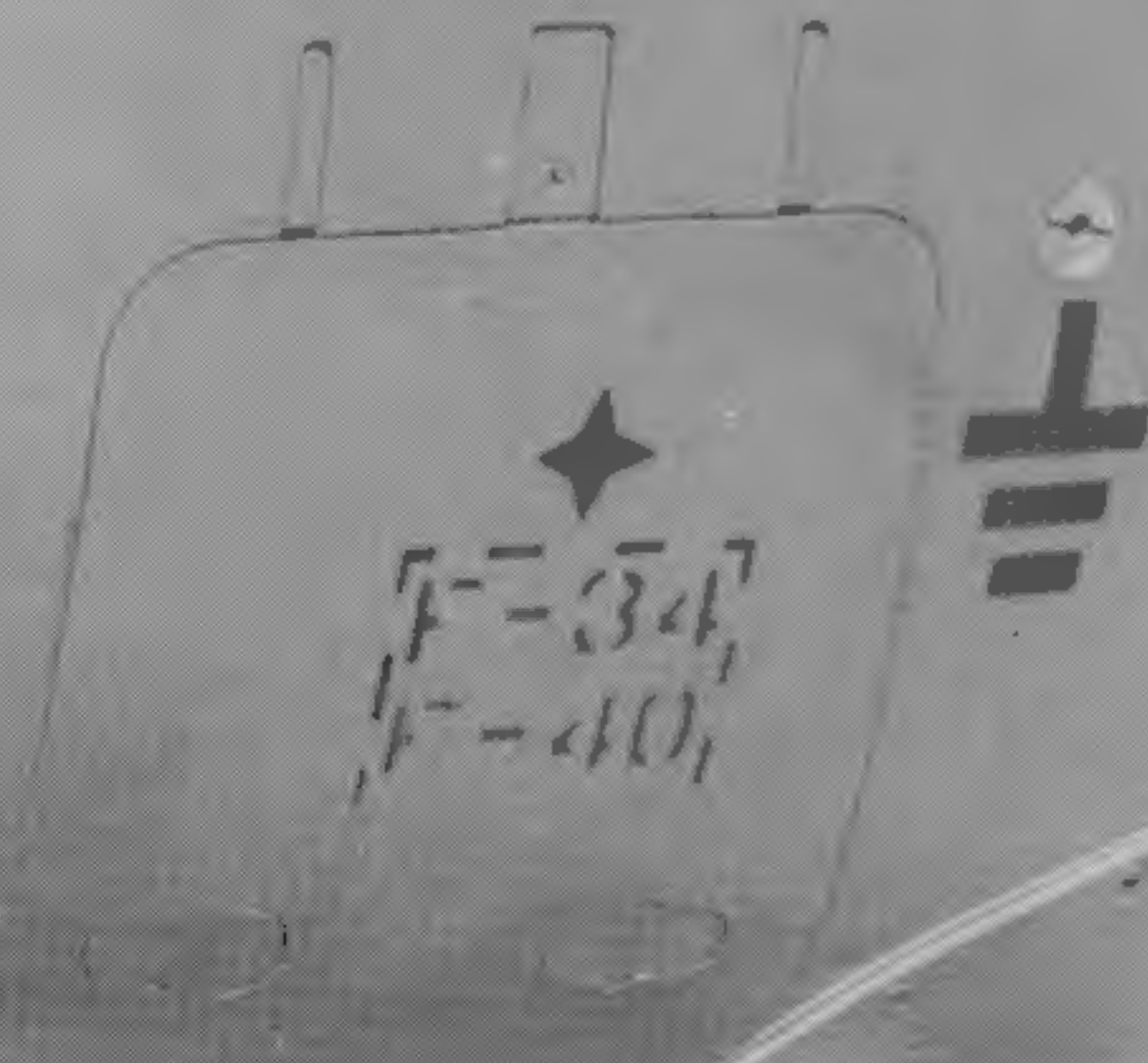
REFUELING

MAX DELIVERY PRESS
3.45 BAR 50 PSI

MAX SUCTION PRESS
0.76 BAR 11 PSI

DEFUELING

APPLY AIR PRESSURE 01-10 BAR
15-100 PSI AT FUEL AIR
FILTER CONNECTION







Above: Rear centre fuselage, starboard side, of a No 151(F) Sqn Hawk showing cooling intake just below the fin leading edge and, below, engine vents. The metallic screwheads betray the position of the main ventral panel, removed for engine changes.

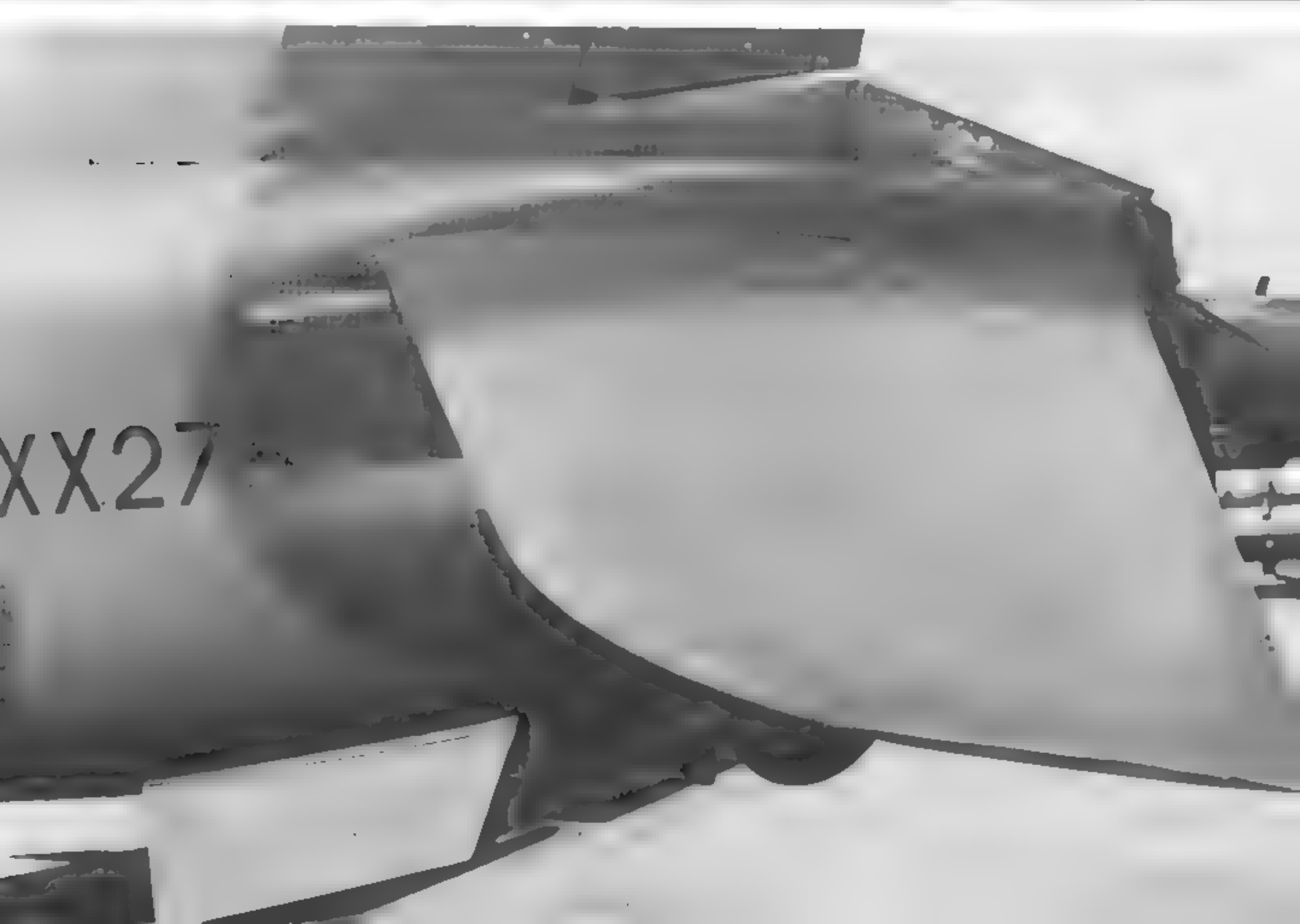
Right: Hydraulics access panel and accompanying stencilling below the starboard forward squadron flash of a No 63 Sqn aircraft. Note small vent beneath.

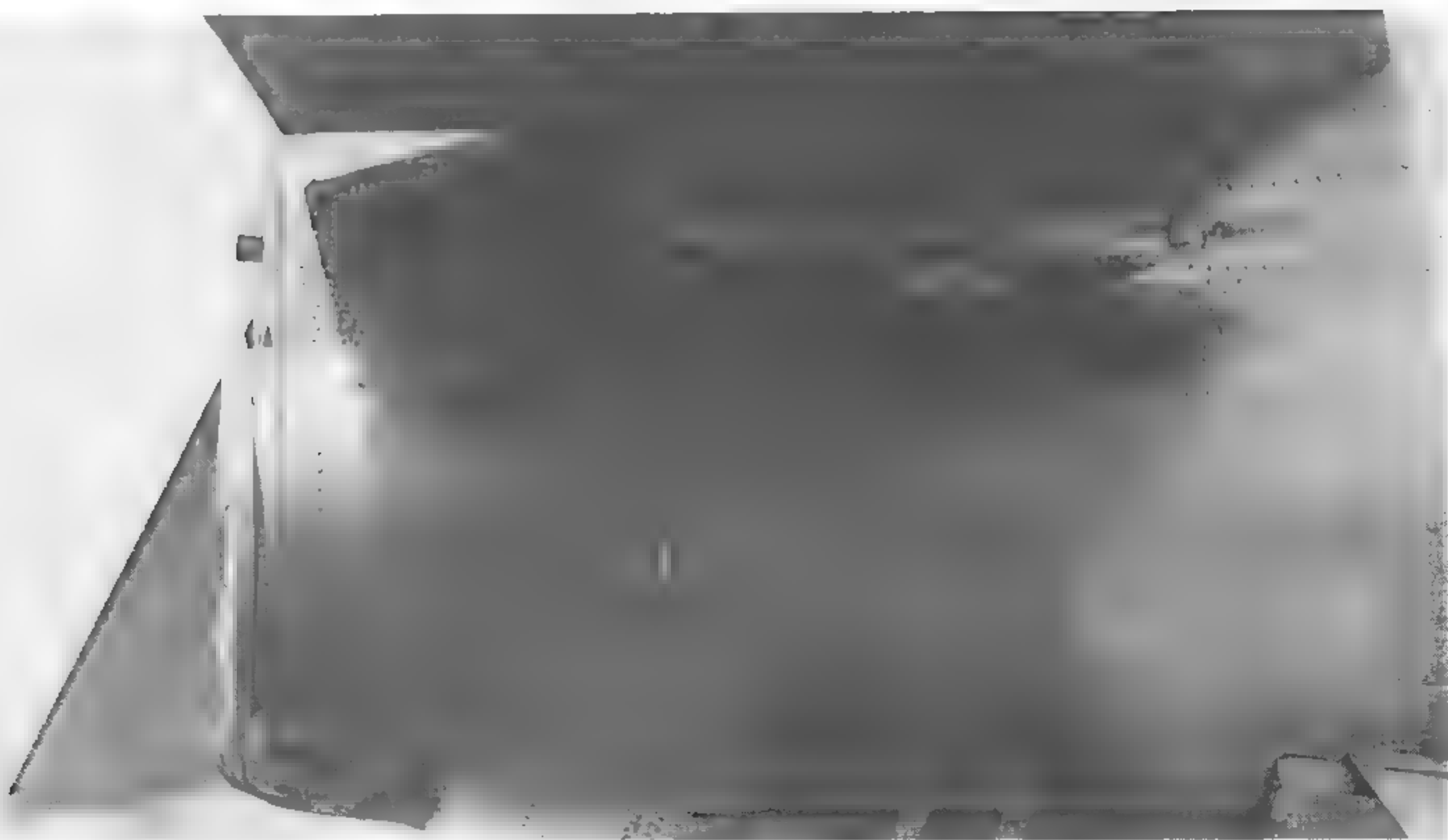
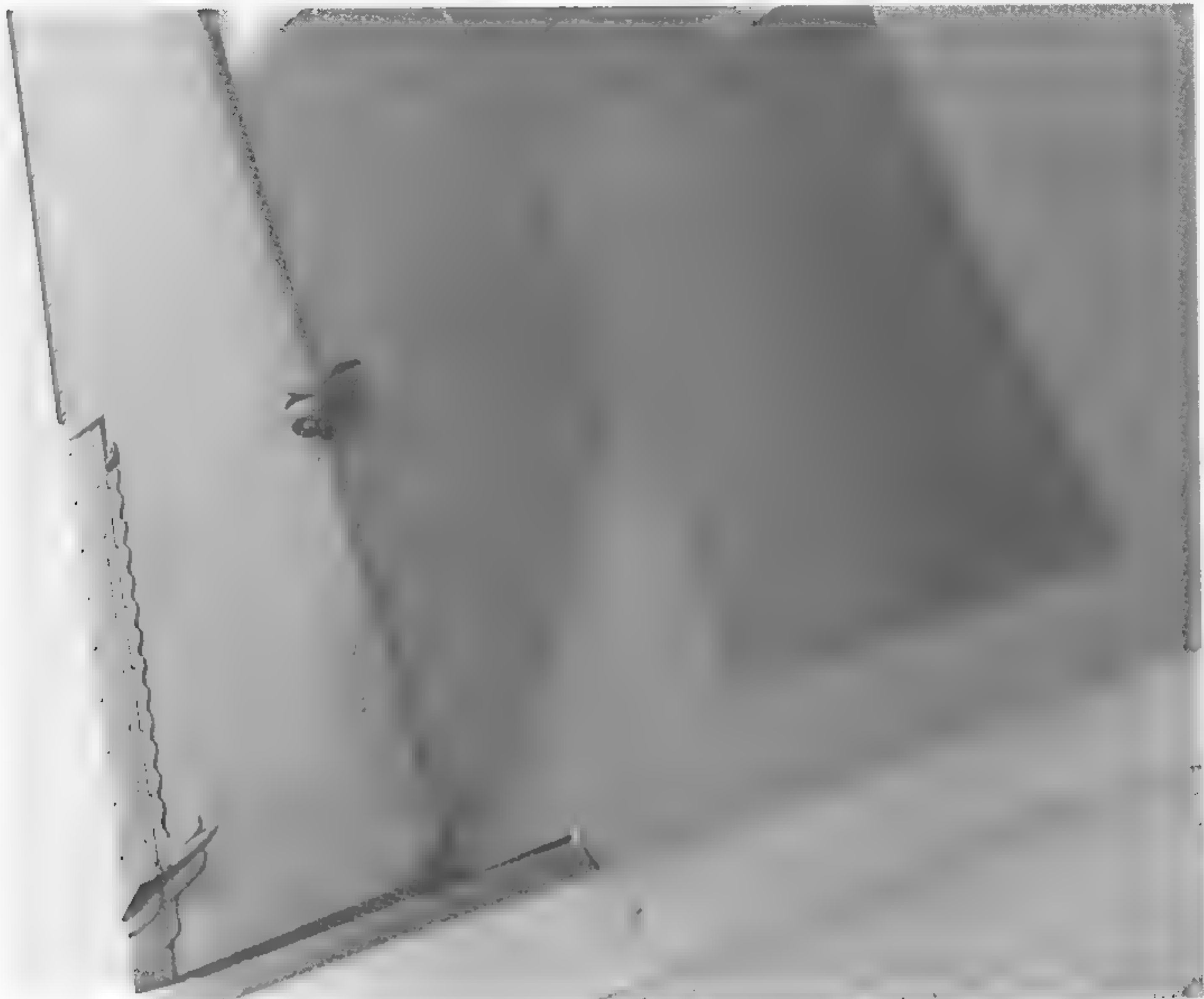
Right, below: Serial number style, showing how the last digit on this particular machine is spaced slightly to the right in order to avoid the problems of overpainting the double line of mushroom-head rivets.

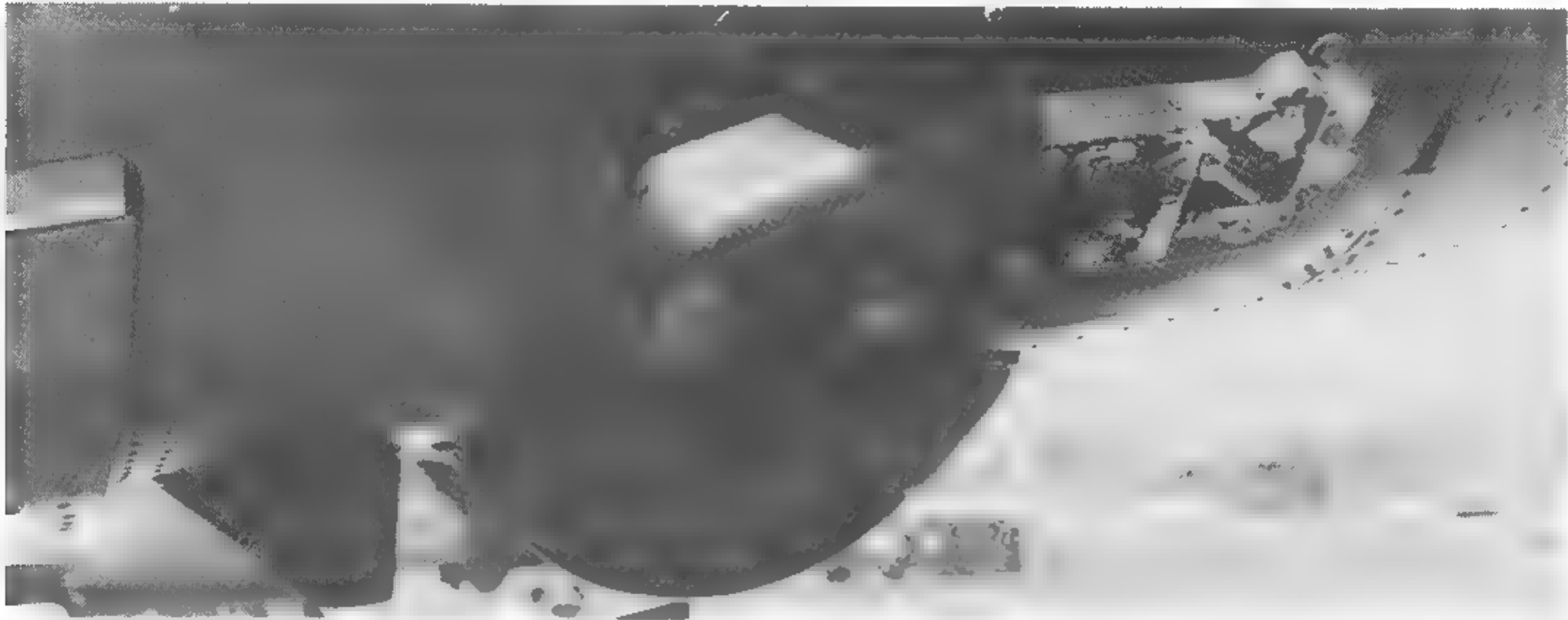
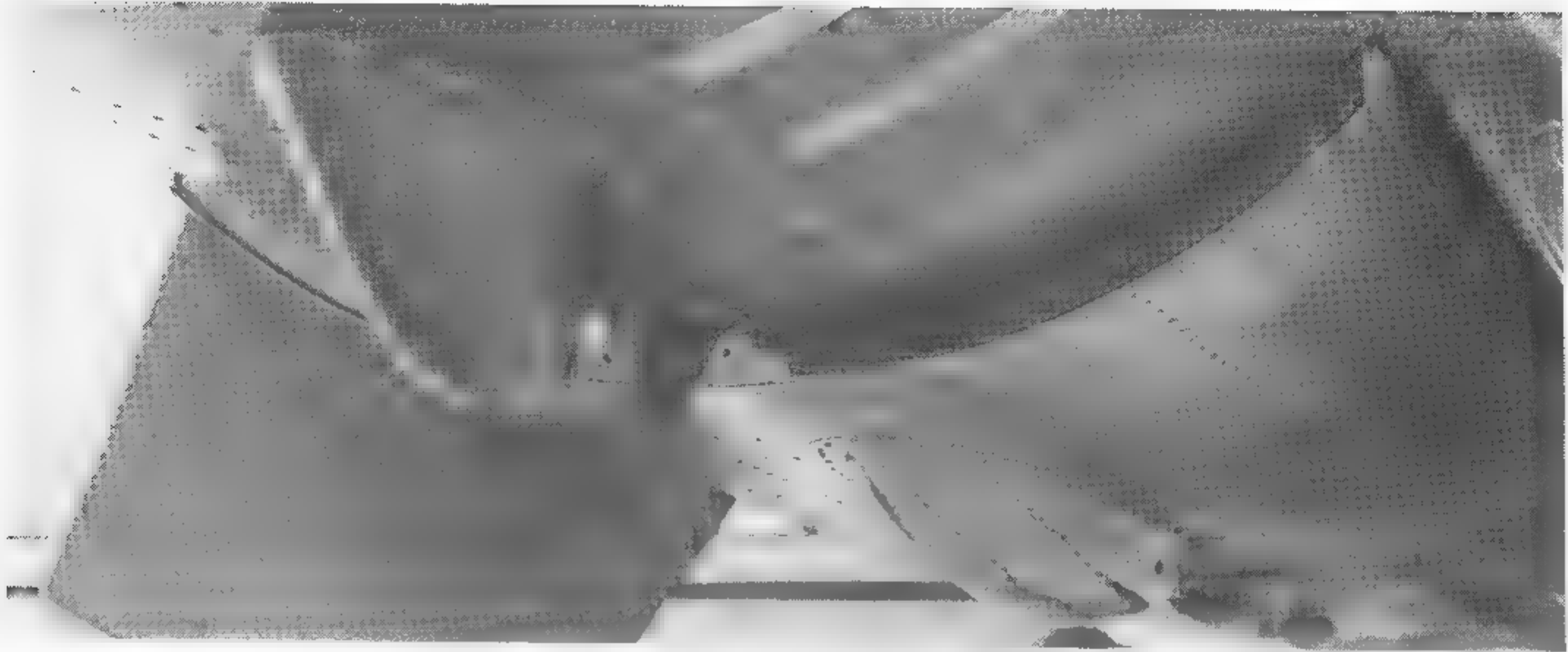
Opposite page, top: Lower half of fin, port side. In two places the camouflage edges are interrupted by the sharp outlines of neighbouring access panels (which are, perhaps, from another aircraft).

Opposite page, bottom: Port stabiliser. The Hawk's tailplane is all-moving; note the yellow incidence stripe (not present on the starboard side). Aerodynamic fairing at rear is a retrofit on Royal Air Force Hawks.









Opposite page, top: Lower half of fin, starboard side, with actuating mechanisms for rudder and trim tab partially visible. Although the photograph suggests otherwise, the rudder is finished in Dark Green.

Opposite page, bottom: Starboard tailpipe detail. Points of interest are the natural metal area behind the stabiliser swivel plate, the jetpipe blanking plate and the sheen on the paintwork; note, too, the trestle markings at the lower edge of the photograph.

Top: Fittings below the rear fuselage include the airbrake, a second IFF/SSR antenna, and the tail bumper. The ventral fins ('strakes') were not fitted to early development aircraft.

Above: Lower rear fuselage, from the port side. The equipment that has to be removed before the aircraft is trestled is the target towing cable connector box.

Left: The simple but functional appearance of the Hawk's tailpipe; this is a TWU aircraft. The object above the exhaust ring is the rear navigation light, whilst at the port edge is the main fuel vent. Note the abundance of mushroom-head rivets.

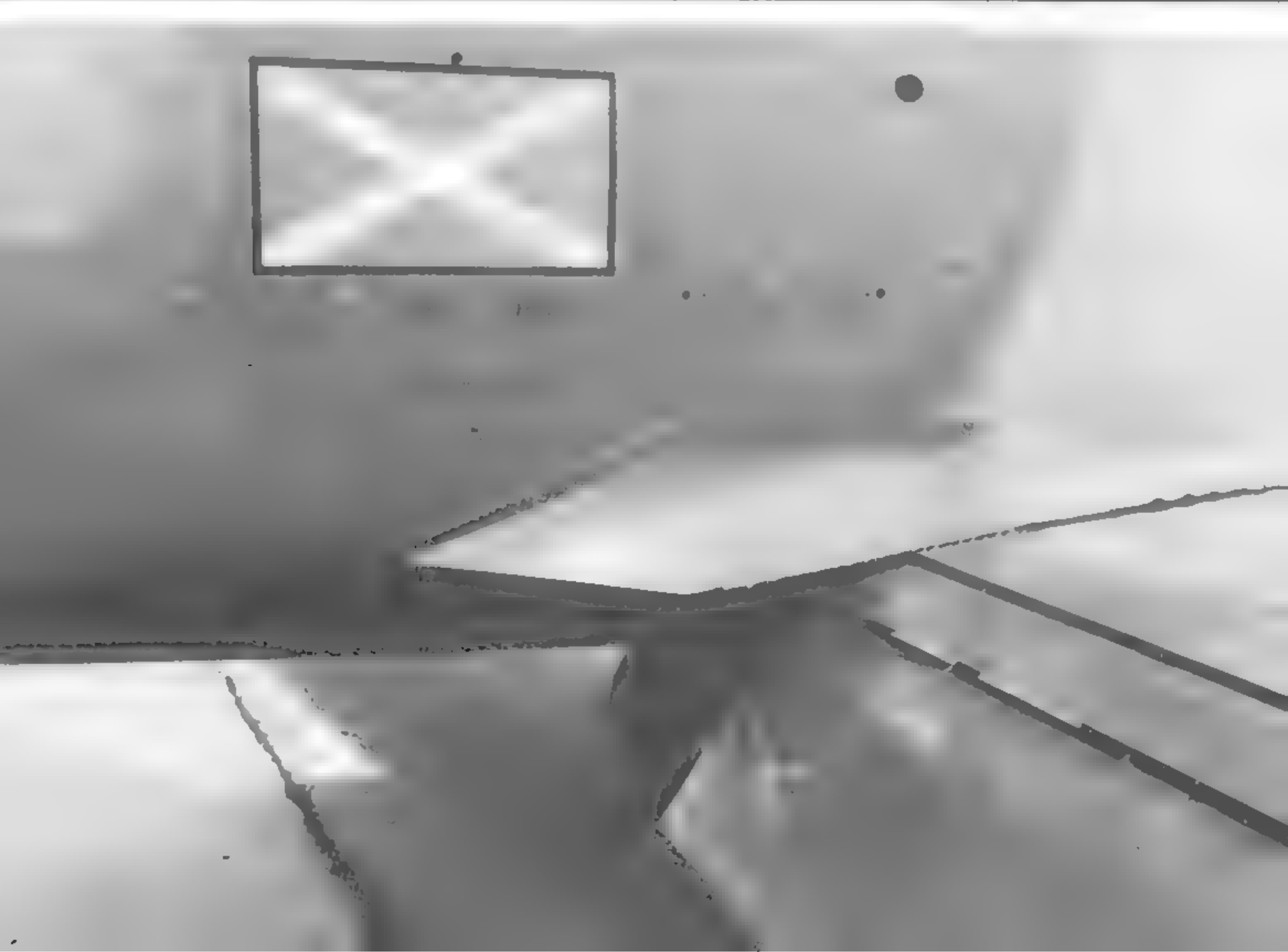
Below: Smoke injection pipes characterise *Red Arrows* Hawks only, enabling aircraft of the Team to trail red, white and blue across the skies. This May 1980 view also shows the standard rear fin fillet for RAF T Mk 1s. Note the glossy finish of the airframe and the humorous message in the airbrake interior. *Mike Stroud*

Opposite page, top: Starboard wing, showing double-slotted trailing edge flaps. 'No step' crosses, in red, are visible both on the flaps themselves and on the access doors immediately forward of them.

Opposite page, bottom: Inboard flap section, starboard side; note streaking towards trailing edge. This No 151 Sqn

aircraft has different stencilling below the squadron flash from those shown on page 8, whilst a further point of interest is the discontinuity in the camouflage across the wing root fairing and across the junction between the two flap access panels visible. 'Hot air' warning lettering is in yellow, all other stencilling here being in black.





Below: Wing fences were not a feature of early Hawks but they are now fitted as standard, in order to improve the aircraft's stalling characteristics.

Bottom: Flap actuator and fairing. This is the centre mechanism for the starboard flap; outer and inner fairings are smaller.

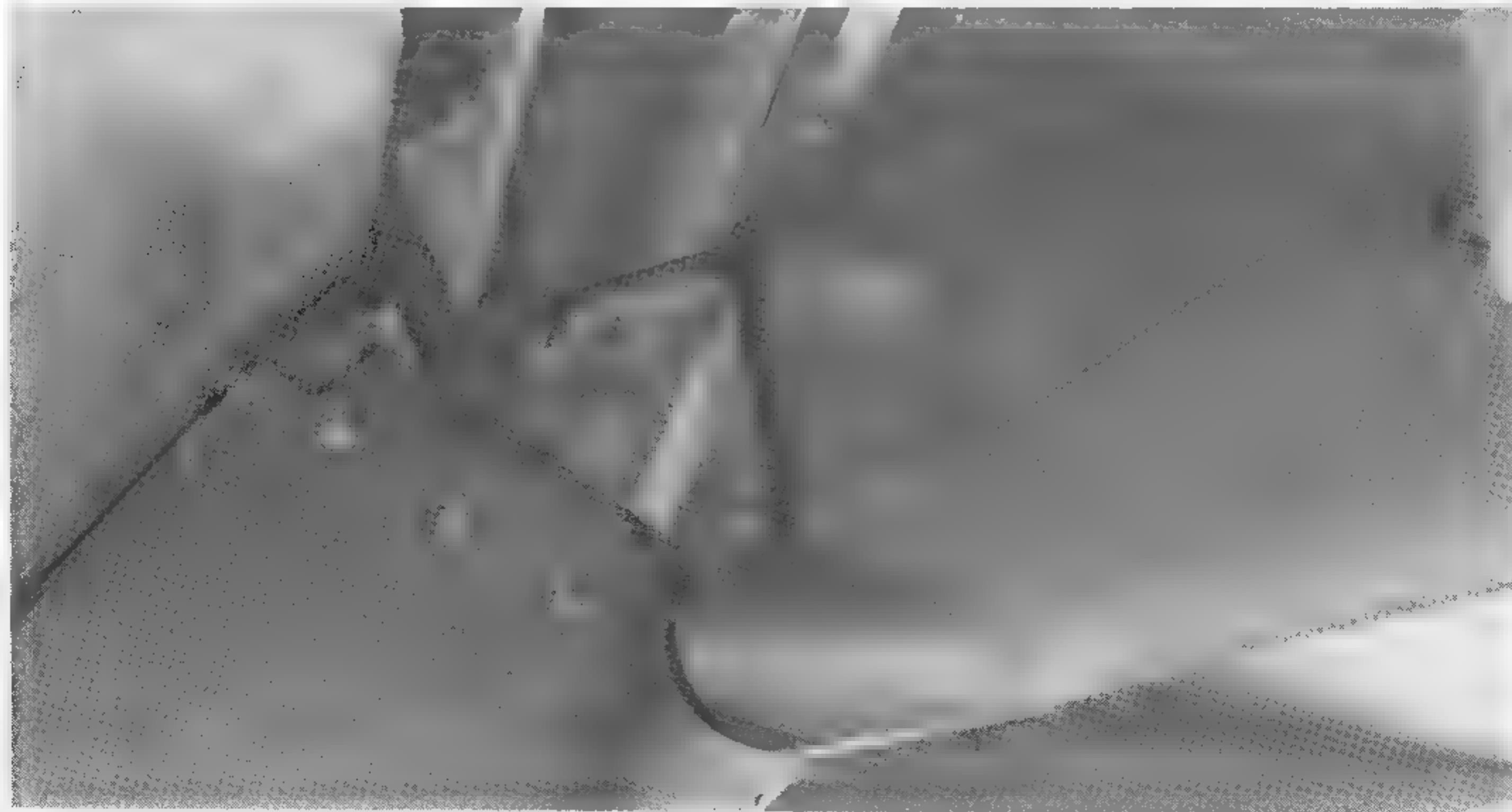
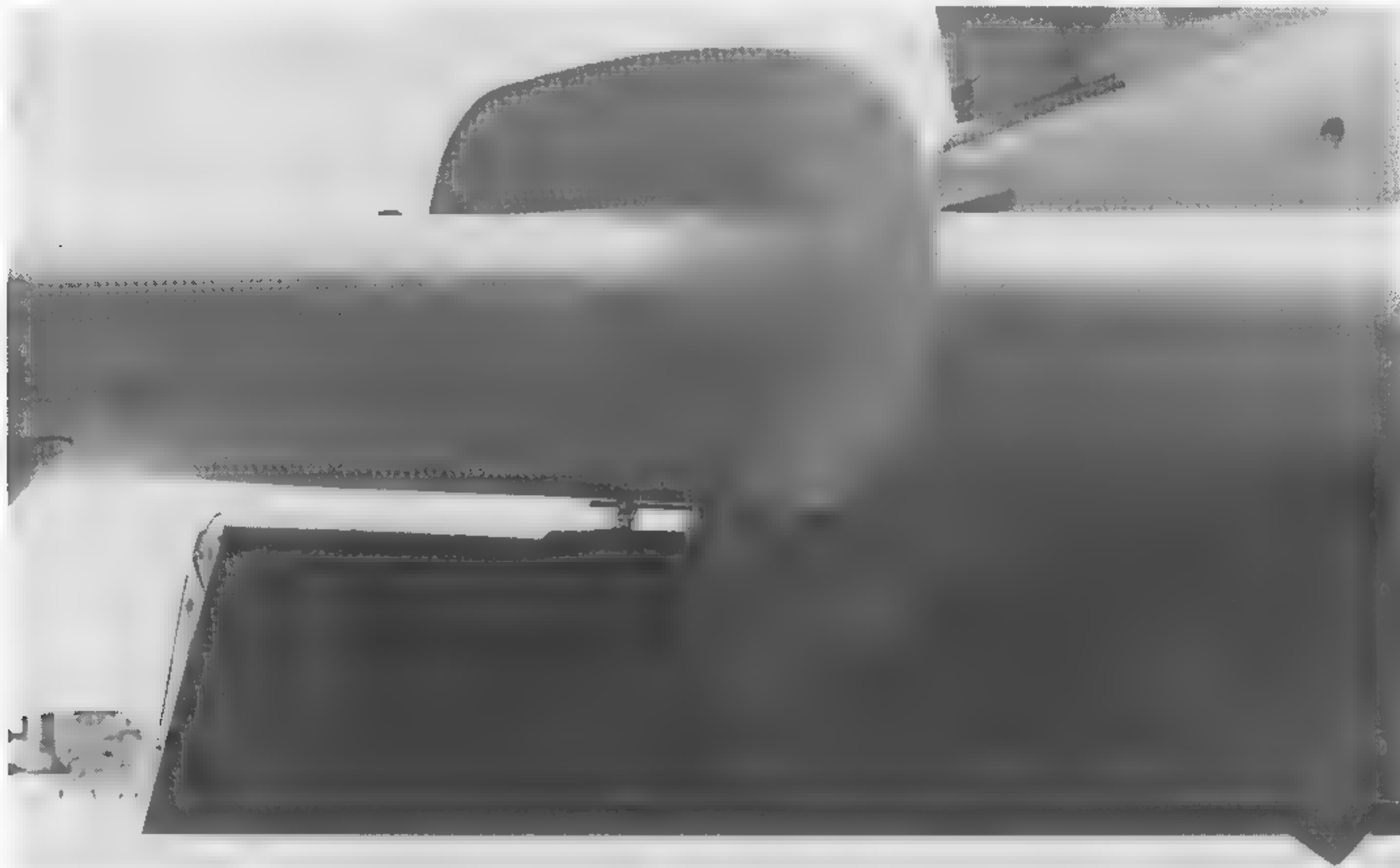
Opposite page, top: Port wingtip

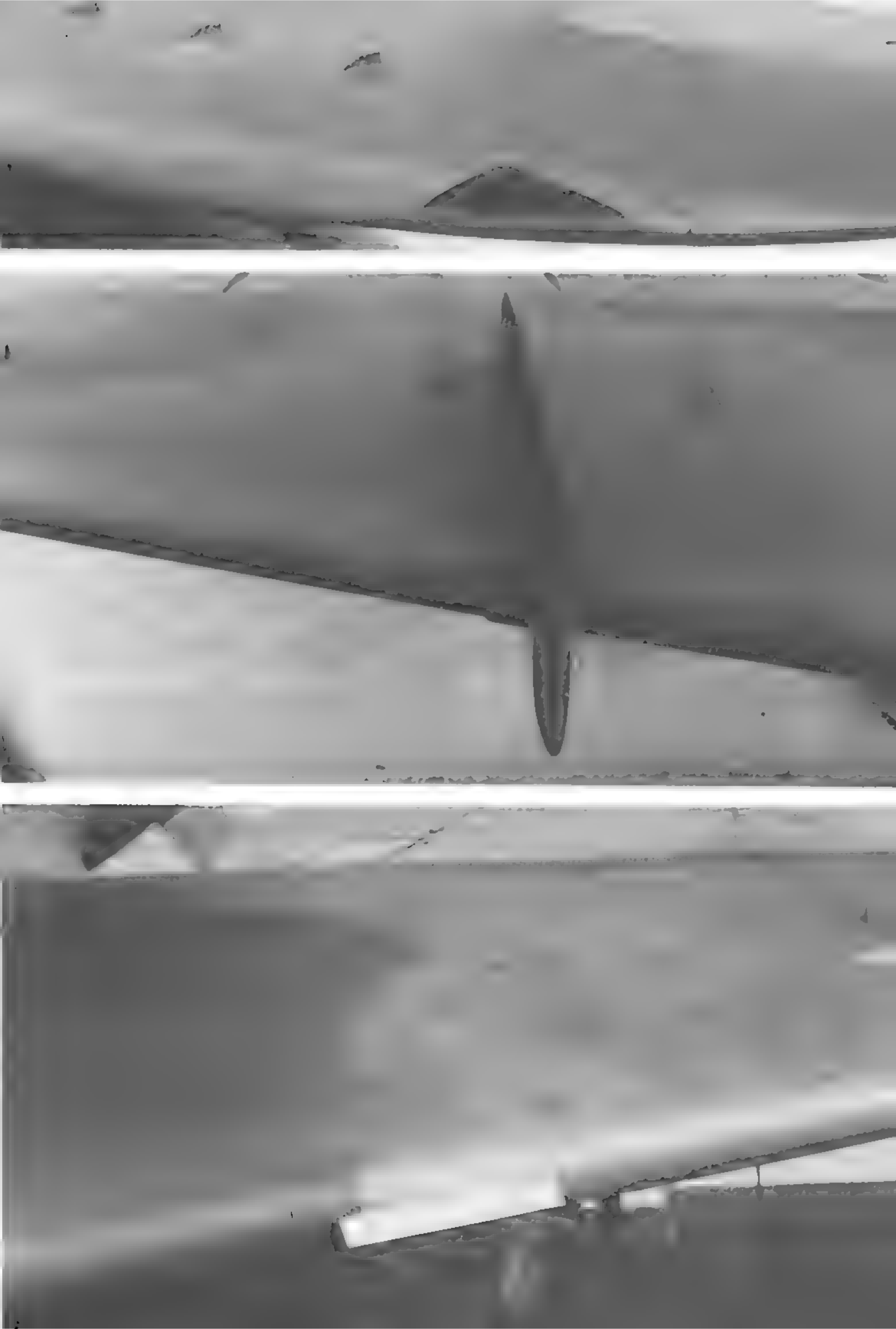
navigation light (red); starboard light is similar though, of course, green.

Opposite page, middle: Starboard wing fence, showing 'L' section construction. The small angular strips along the wing are vortex generators (also of 'L' section), another post-trials modification found desirable in view of the Hawk's near-sonic capabilities. The

four outboard generators on each wing assist aileron response; the four inboard of the wing fence aid longitudinal trim.

Opposite, bottom: Breaker strips on each wing leading edge were added to production Hawks to prolong buffeting and hence give warning of ■ stall. Two are fitted to each inboard wing leading edge (see also cover illustration).





UNDERCARRIAGE

Below left: Nose undercarriage leg of a TWU Hawk. General colour is glossy Light Aircraft Grey, with the manufacturer's plate in black and natural metal; the wheel hub is also Light Aircraft Grey. The aircraft's towing lug is clearly visible, stowed at the top of the angled 'yoke'.

Below right: The rear nosewheel door

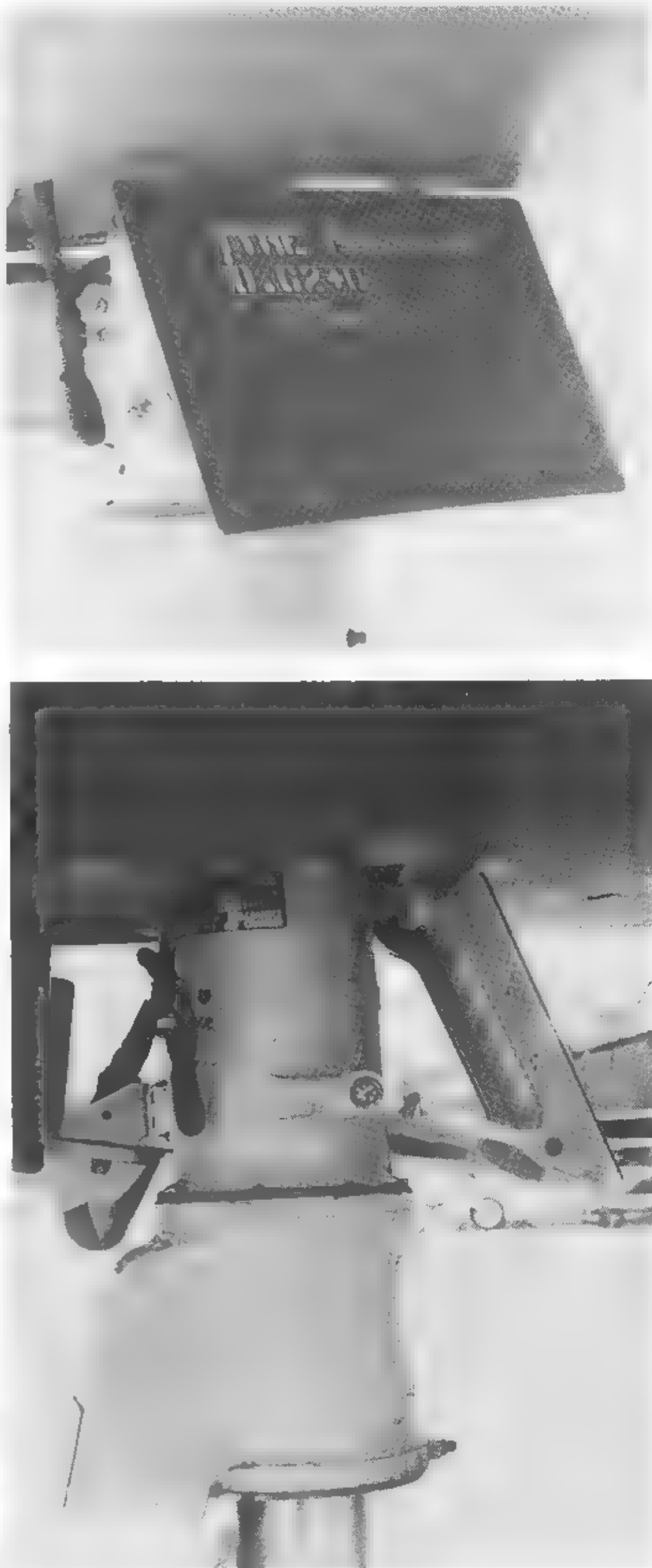
of the Hawk depicted in the previous photograph; the tyre pressure advice is stencilled in white.

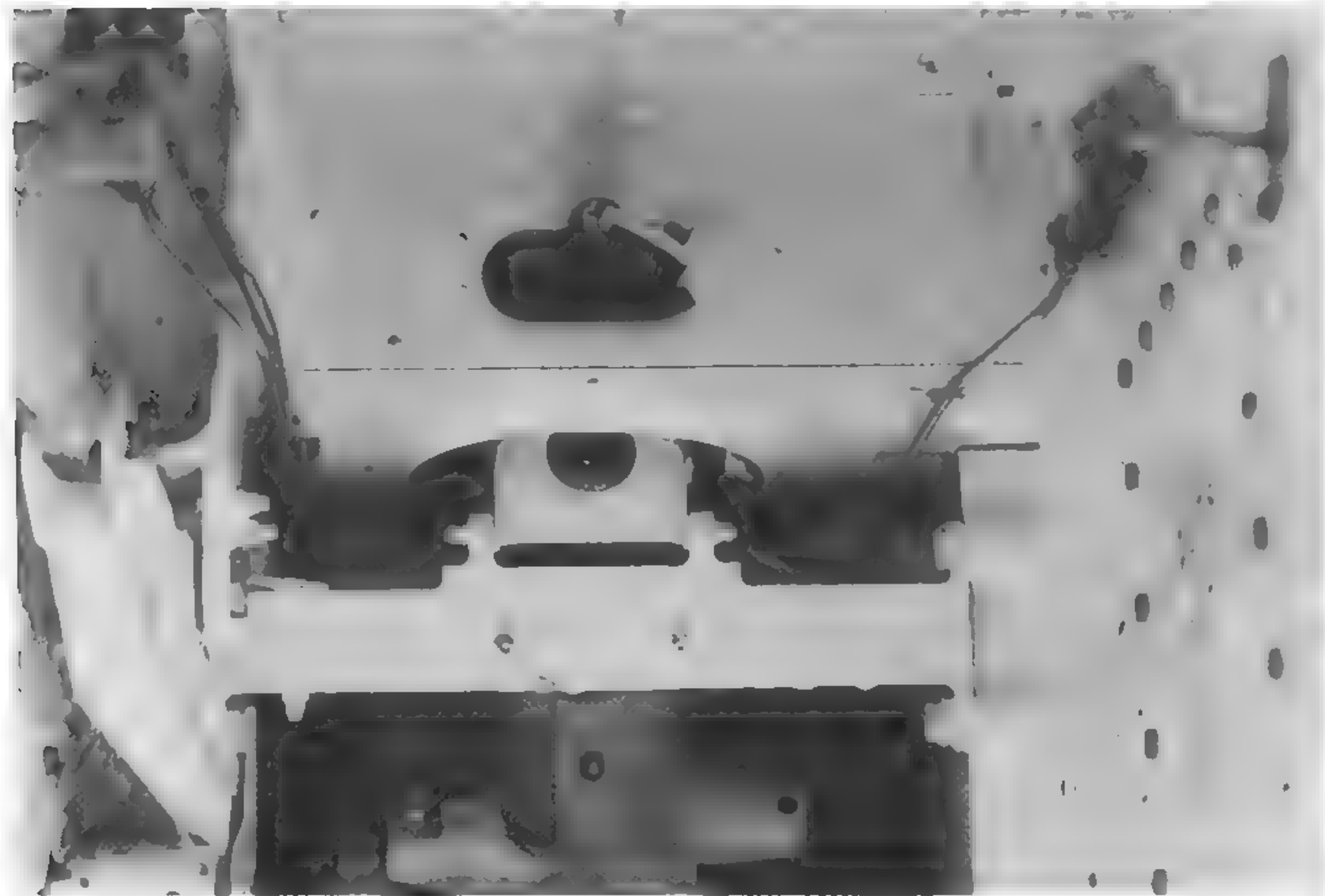
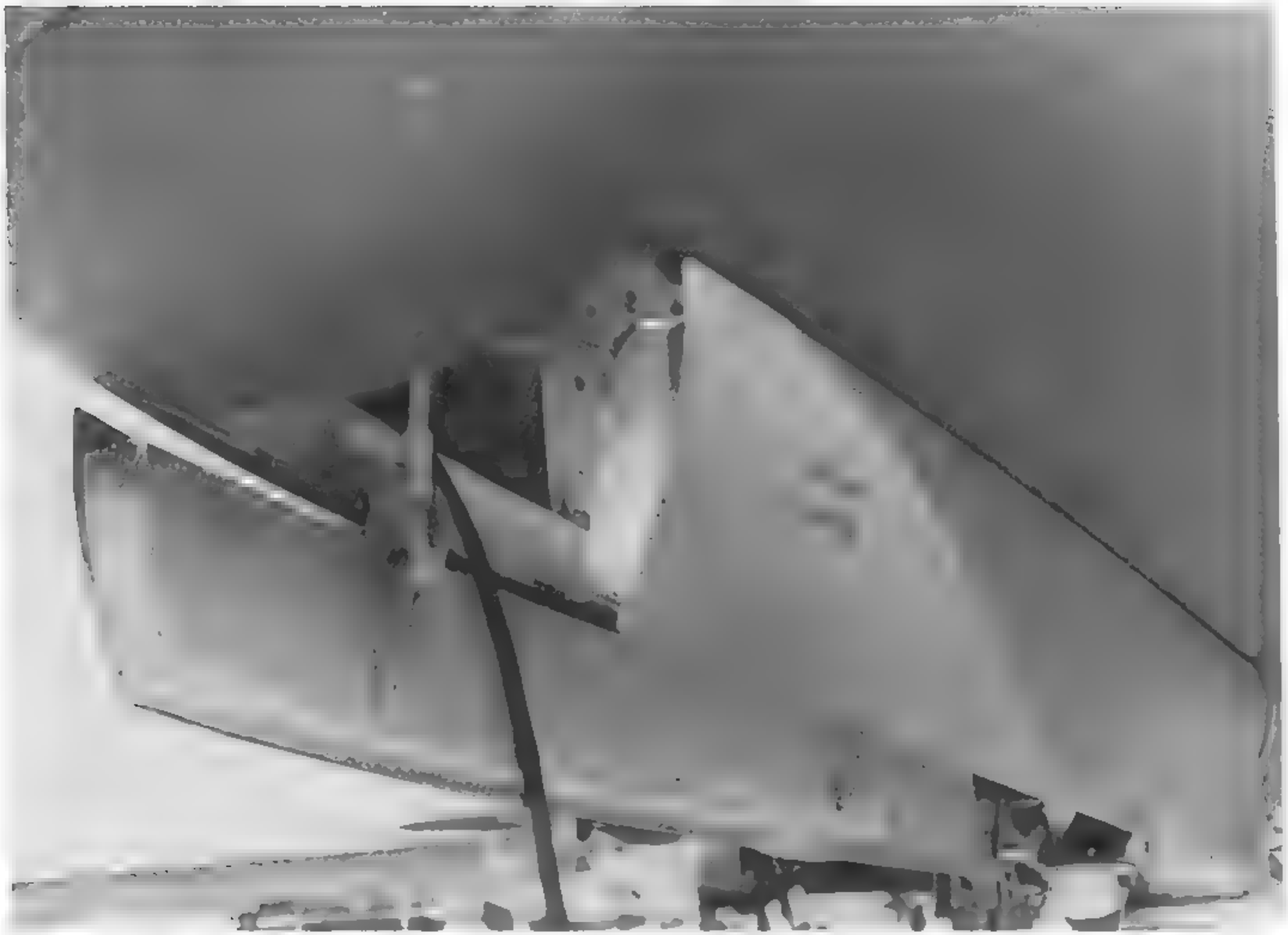
Bottom right: The upper portion of the nosewheel leg, viewed from the port side, showing the strut attachment system for the auxiliary rear door.

Opposite page, top: The Hawk's forward nosewheel doors; the lower

edges of the open doors bell out very slightly in the region of the rear hinge. The general finish of the nosewheel bay is glossy white, although the interior surfaces of the doors here are Light Aircraft Grey.

Opposite page, bottom: Inside the nose undercarriage bay, looking towards the rear.



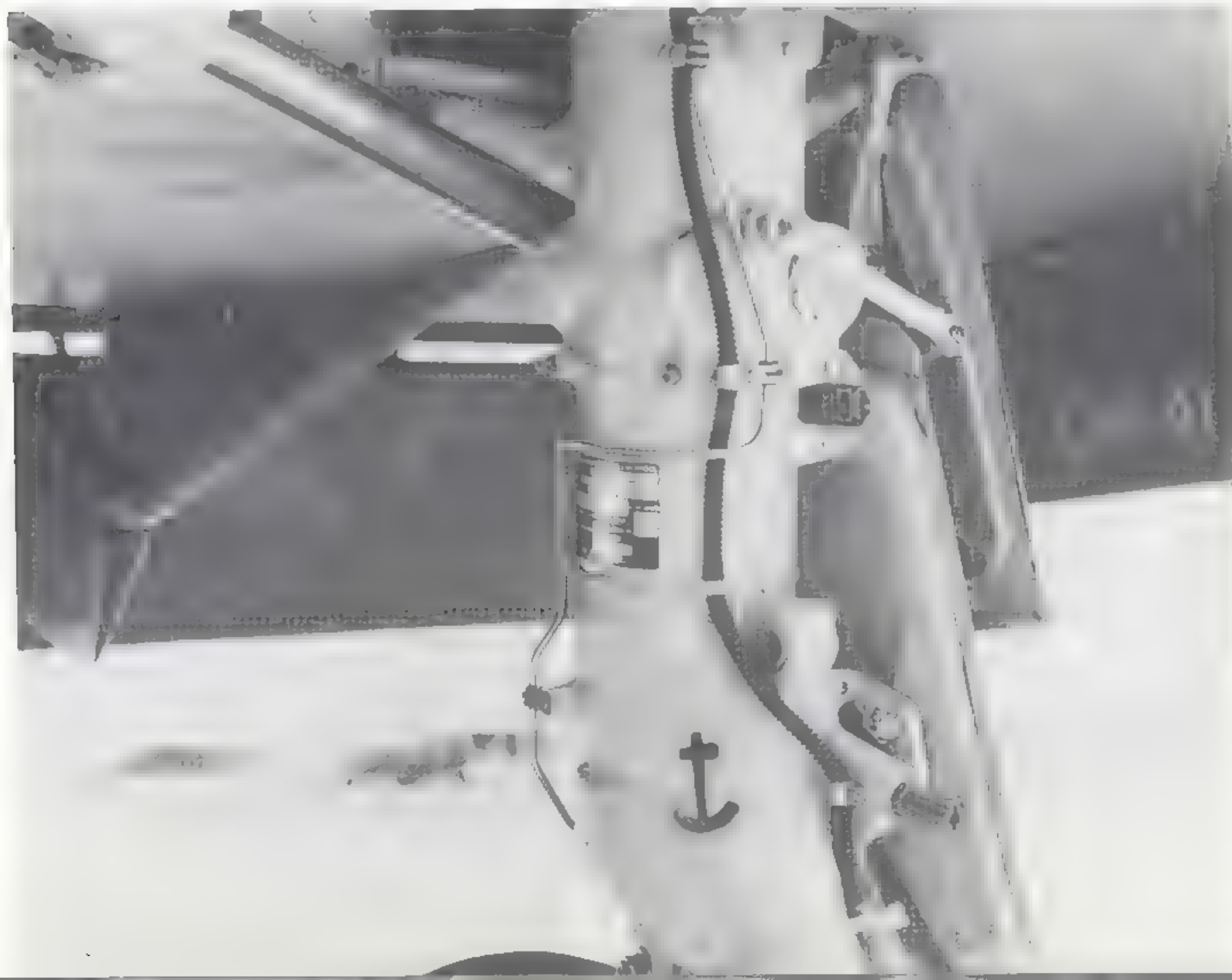
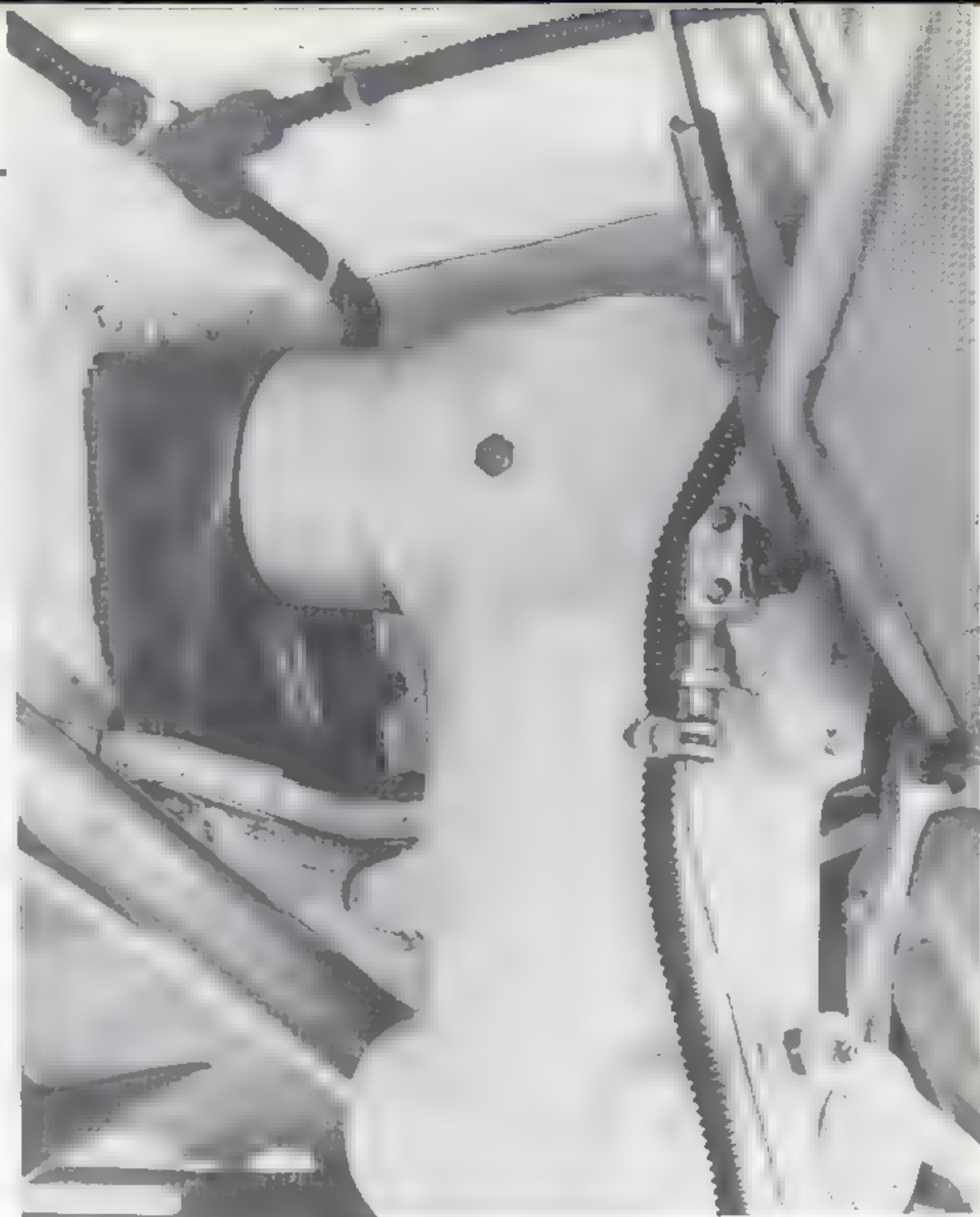


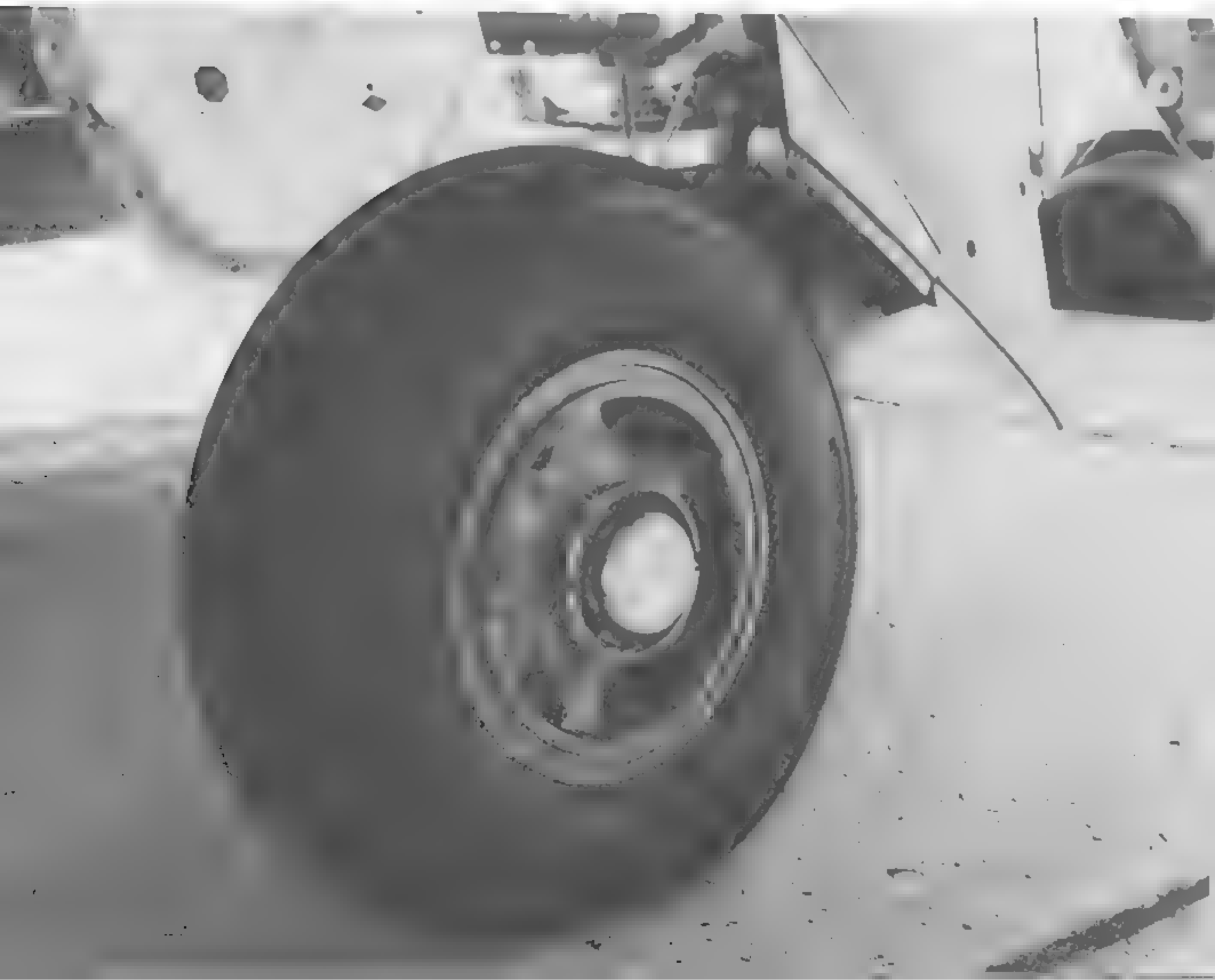
Right: Main undercarriage pivot point, at the outboard end of the main bay; this is the port unit. On the left is the principal retraction jack.

Below: Port main undercarriage leg, showing details of cables and piping and also the manufacturer's plate. The large door is bolted to the leg and retracts as a unit with it, but the auxiliary upper door is hinged to the airframe, retracting in sympathy with the leg via free-moving 'spacer' struts. The colour of the undercarriage legs is Light Aircraft Grey and the condition is immaculate.

Opposite page, top: Port main wheel, inboard view, showing configuration of single 'yoke' and brake housing etc. Hydraulic line along upper edge of yoke appears as natural metal.

Opposite page, bottom: Station markings along the tyre wall (starboard main wheel) of this Hawk betray the base from which the aircraft operates. Hub colour is again Light Aircraft Grey, which in this instance shows evidence of grime etc. At the extreme top right-hand corner of the photograph ■ ■ pylon-mounted CBLS, further details of which can be found on pages 26 and 27. Main wheel tyre pressure, incidentally, is 143psi for this No 151 Sqn Hawk (XX346); other machines show variations, eg 148.5 + 10, as shown overleaf.



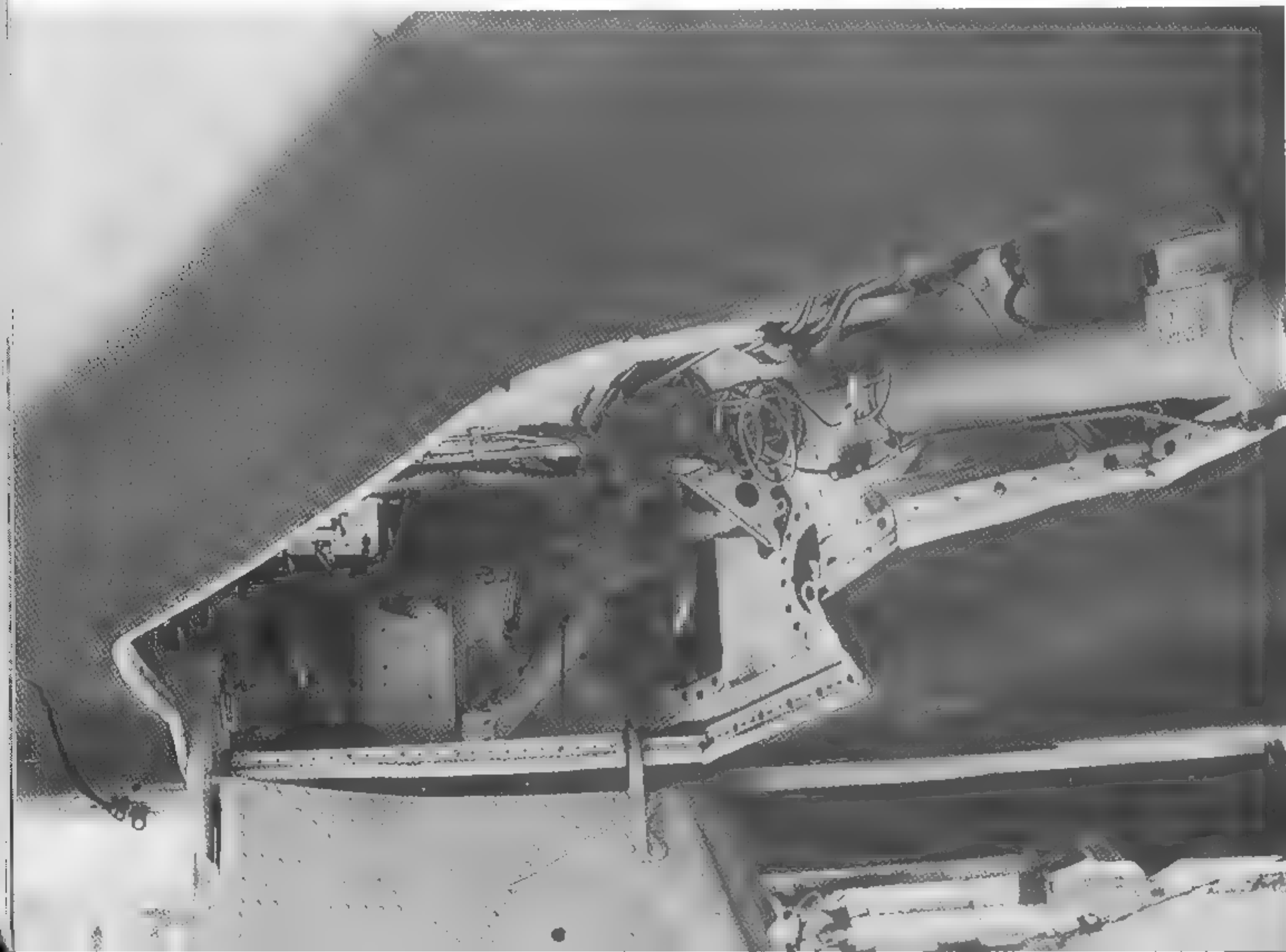


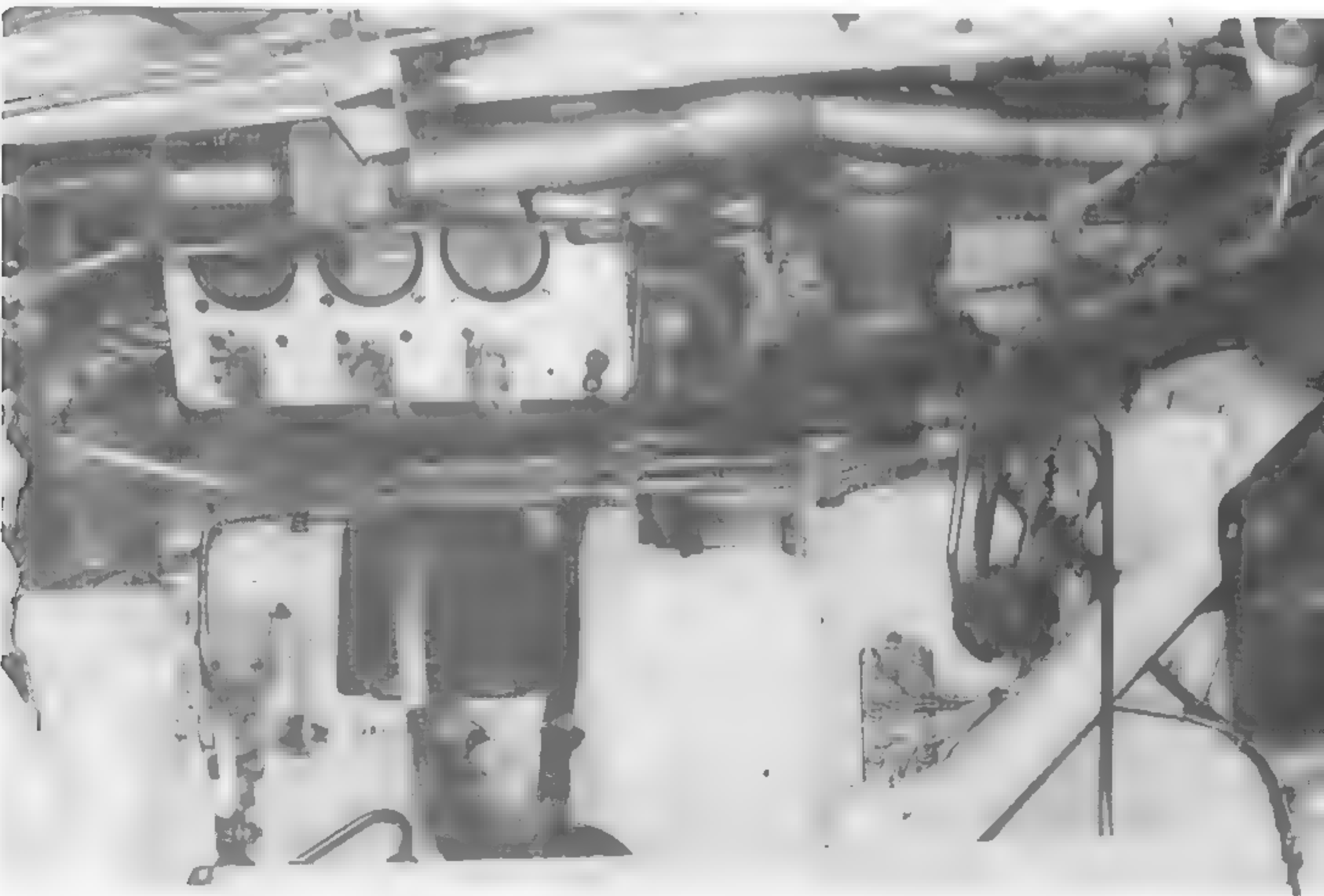
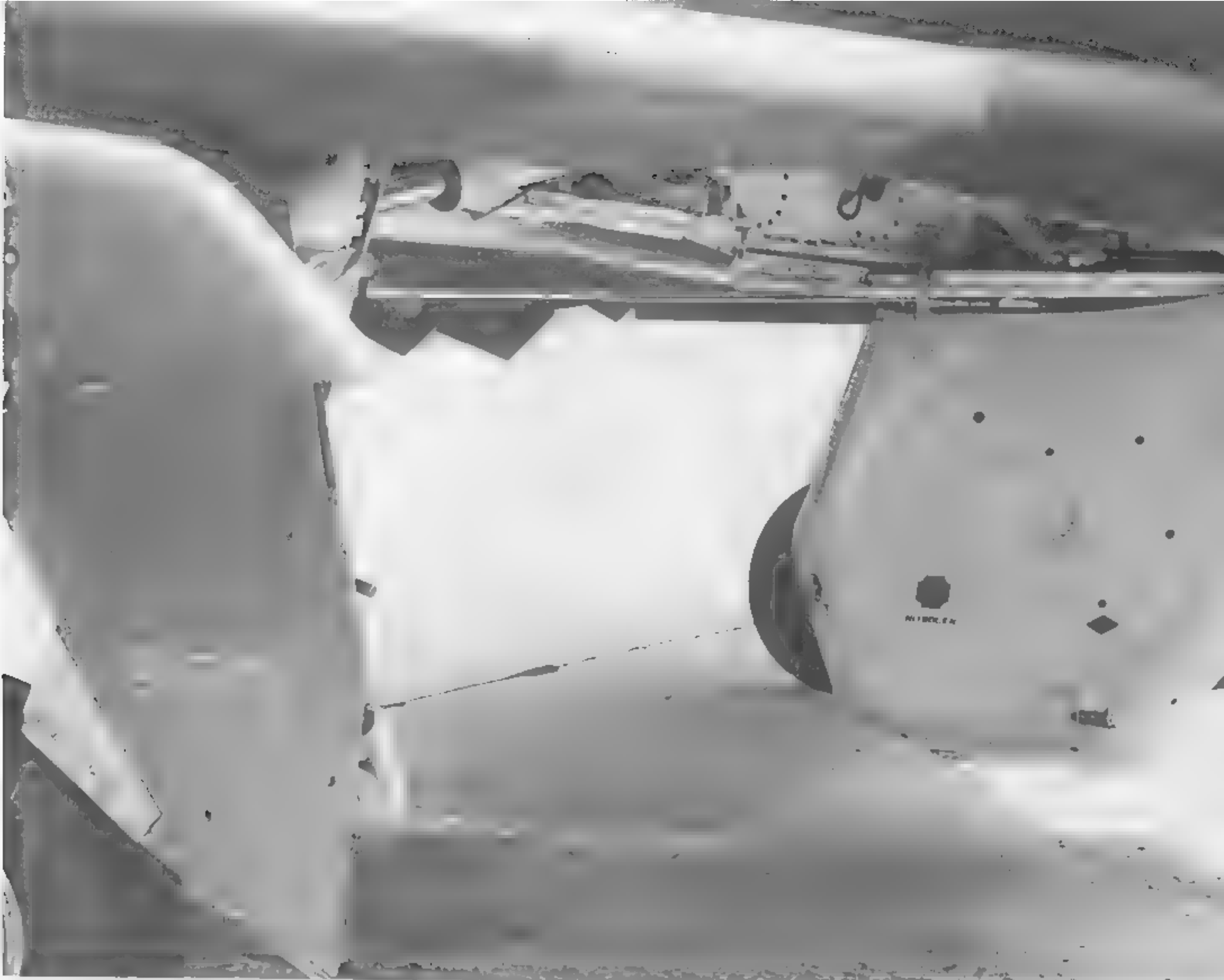
Right: Port main undercarriage unit of XX278. A sharp shadow suggests a two-colour finish, although both outer doors are Dark Green. However, the panel at the back edge of the lower door is finished in yellow, and warns that 3-plate brakes are fitted. The rim of the wheel hub is also yellow.

Below: Port main wheel bay of the same machine: the finish is white and the condition pristine.

Opposite page, top: Starboard main wheel bay and doors, showing stencilling detail (in white on Dark Green area, in black elsewhere in this view). Note locking lugs on interior of main inner wheel door and 'dished' centre to accommodate the shape of the wheel itself. White sealing strips are evident along the perimeter of the bay. Also evident in this view is the bulging of the wing undersurfaces necessary to accommodate the retracted undercarriage: note the contours immediately aft of the bay and also the line of the inboard edge of the inner door.

Opposite page, bottom: Interior detail of port main undercarriage bay, looking inboard; the forward hinge of the inner door can be seen in the bottom left-hand corner of the photo. Hydraulic lines, pipes, reservoirs, etc are generally natural metal, and pressure gauges at left have black dials with white detail.





COCKPIT

Below: The Hawk features a one-piece acrylic windscreen and a one-piece, sideways-opening canopy made from the same material; note the hinges for the latter in this photo, which also shows the interior rear-view mirrors.

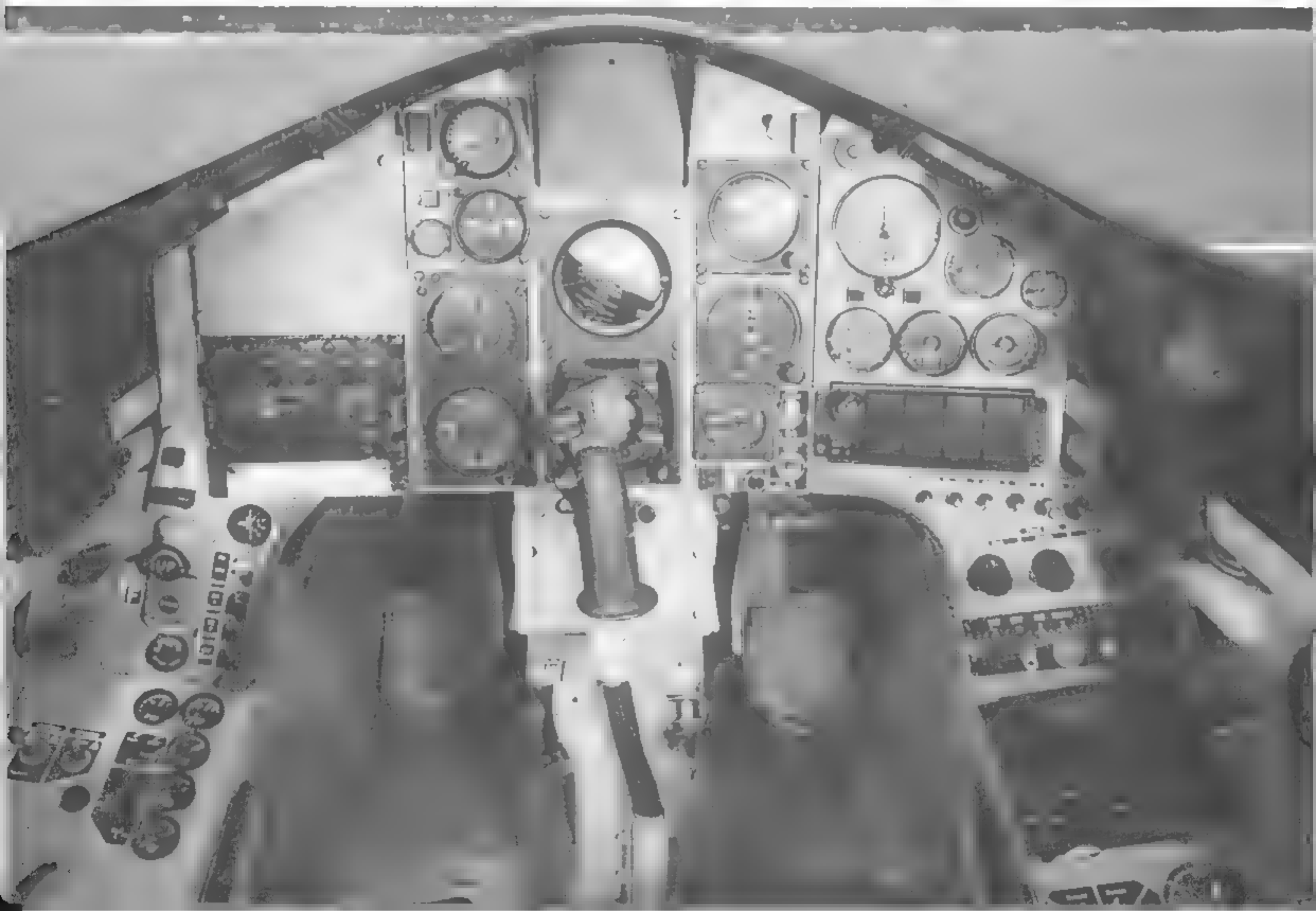
Bottom: Student's (forward) instrument panel; general interior finish is light grey, with instruments in blackish-grey.

This is an official manufacturer's photo and many items of equipment present on TWU Hawks (for example the Ferranti F 195 weapon sight) are not evident here. *British Aerospace*

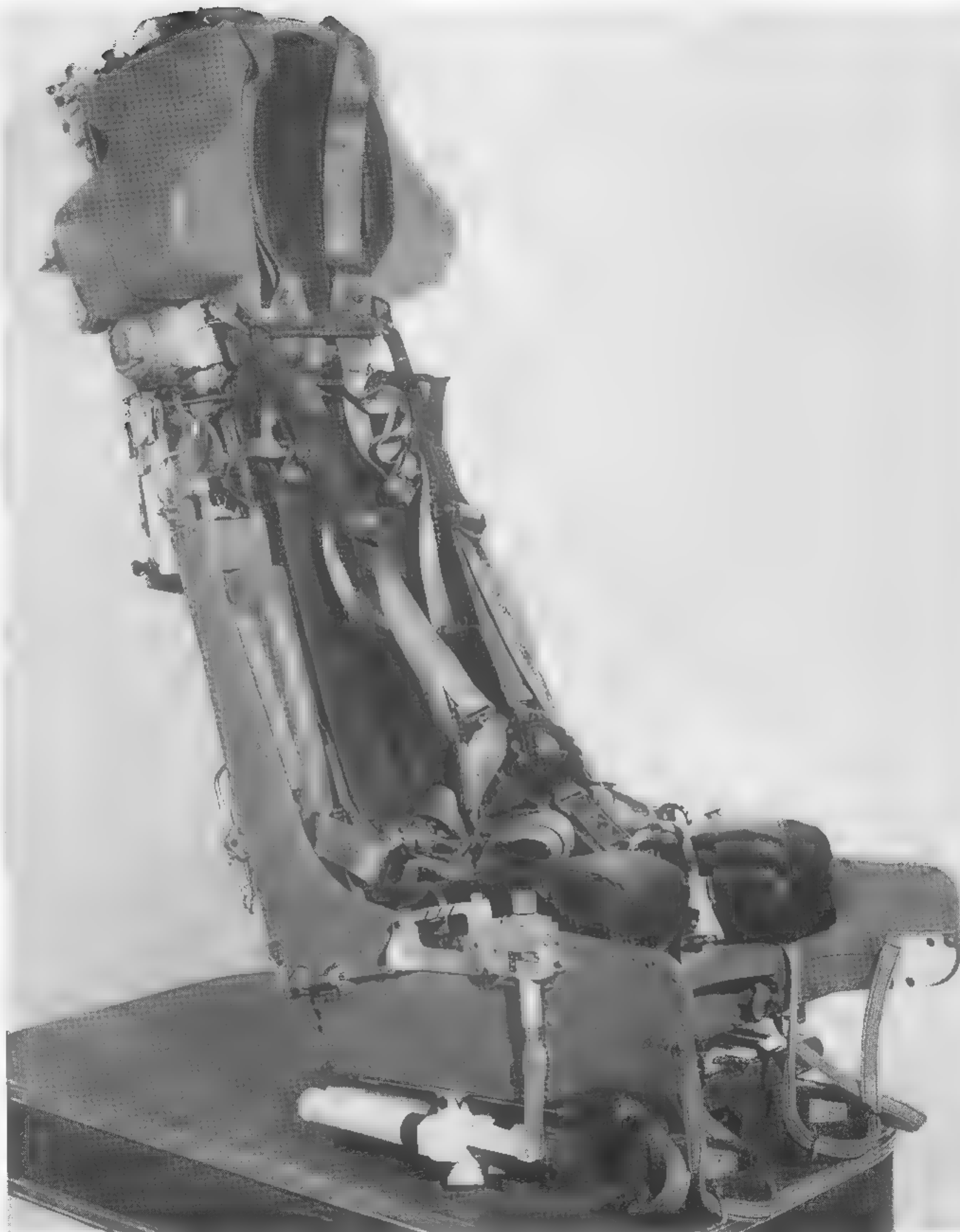
Opposite page, top: Rear (instructor's) cockpit area. Points of interest include the bracing struts for the interior clear screen, the removable warning notice in

red, yellow and white with black lettering, and the intake blank. Modellers may note the scuff marks.

Opposite page, bottom: Stencil markings etc along forward canopy edge, port side. The Miniature Detonating Cord (MDC) for shattering the canopy prior to emergency crew ejection is clearly visible.



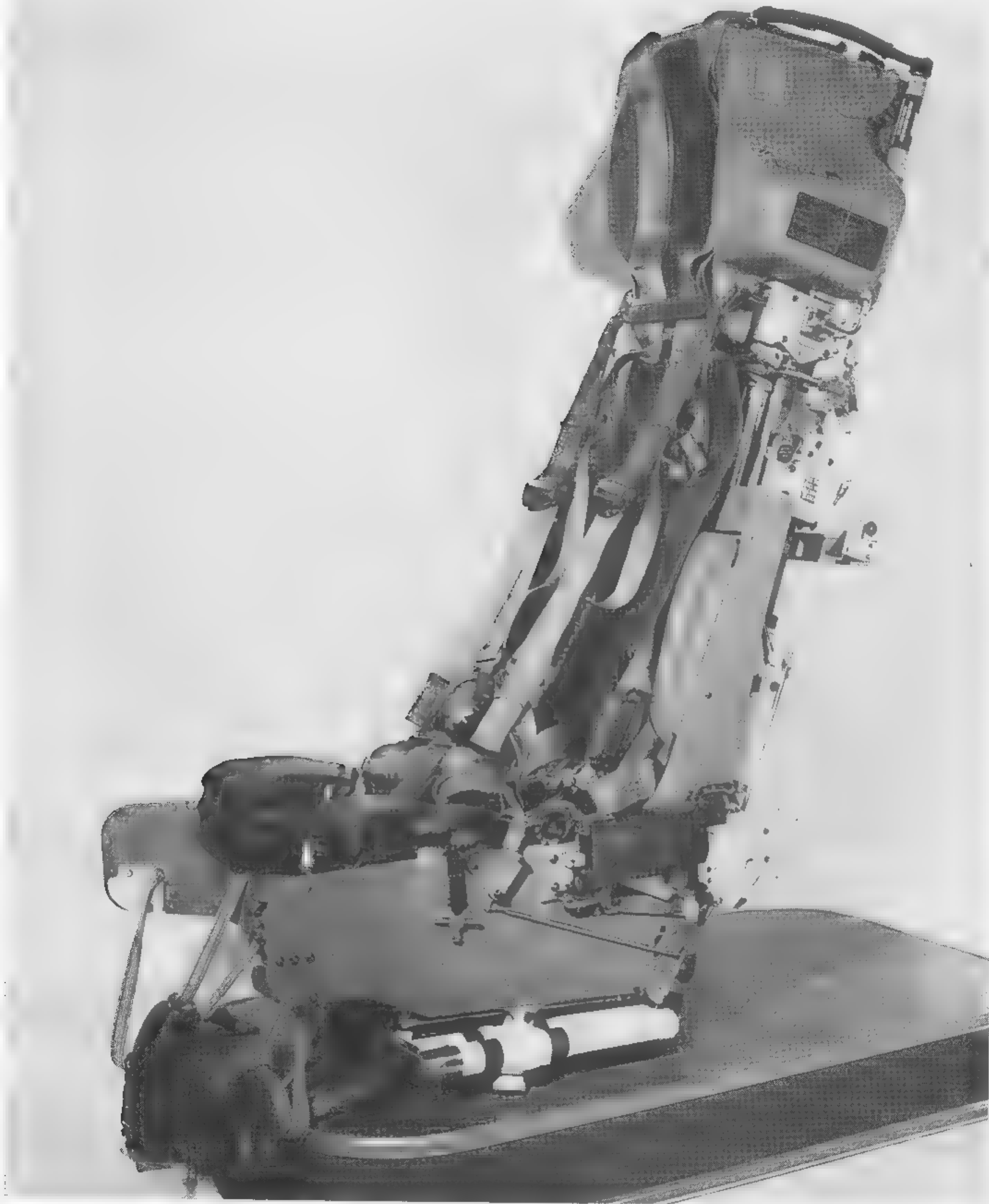




Above and opposite page: The standard ejection seat fitted to this aircraft is the Martin-Baker Mk 10B. It is a zero-zero system (ie escape can be safely made whilst the aircraft is motionless, on the ground – zero speed and zero altitude) and is effective up to 630kt IAS. The ejection sequence is initiated by the pilot pulling the firing

handle (visible in these photographs within the two portions of the black survival pack); a cartridge is thereby fired, freeing the seat from the aircraft as the arm restraints are activated, personal services disconnected and the emergency oxygen supply actuated. As the seat rises the rocket pack below the pan fires, producing 4500lb of thrust for

0.25 seconds and accelerating the crewman away from the aircraft; 0.5 seconds after ejection the drogues housed in the seat headrest deploy; after a further 1 second (or at a preset altitude) a release unit fires to free the harness and restraints, a shackle transfers the drogue linkage from the seat to the pilot's parachute and the



seat itself separates. The harness – all the elements of which are visible in these photographs – comprises a negative-g strap which is locked into the seat pan; two leg straps; two lap straps, which terminate in 'D' rings through which the leg straps pass; two shoulder straps, which pass through the ends of the leg straps and engage a

single, quick-release fitting mounted at the extremity of the negative-g strap, thereby securing the complete system; and a back pad. The lower harness straps plug into locks on the seat, and the upper ends of the shoulder straps have shackles through which a separate power retraction unit harness is passed; this unit, the ends of which may be

seen below the headrest, provides automatic lock of the shoulder harness system during high-g manoeuvres and retracts it during ejection. It may be noted that the straps passing across the headrest are the parachute lift webs, deployed as the seat falls away during the ejection sequence described earlier. *Martin-Baker Aircraft Co Ltd*

WEAPONS & STORES

Below: The standard centreline store fitted to TWU Hawks is the 30mm Aden gun pod, shown here. Note the grille hinged downwards.

Bottom: Aden gun barrel, showing offset muzzle and cooling perforations below. Muzzle colour is gunmetal, the fairing Dark Sea Grey overall.

Opposite page, top: Starboard wing

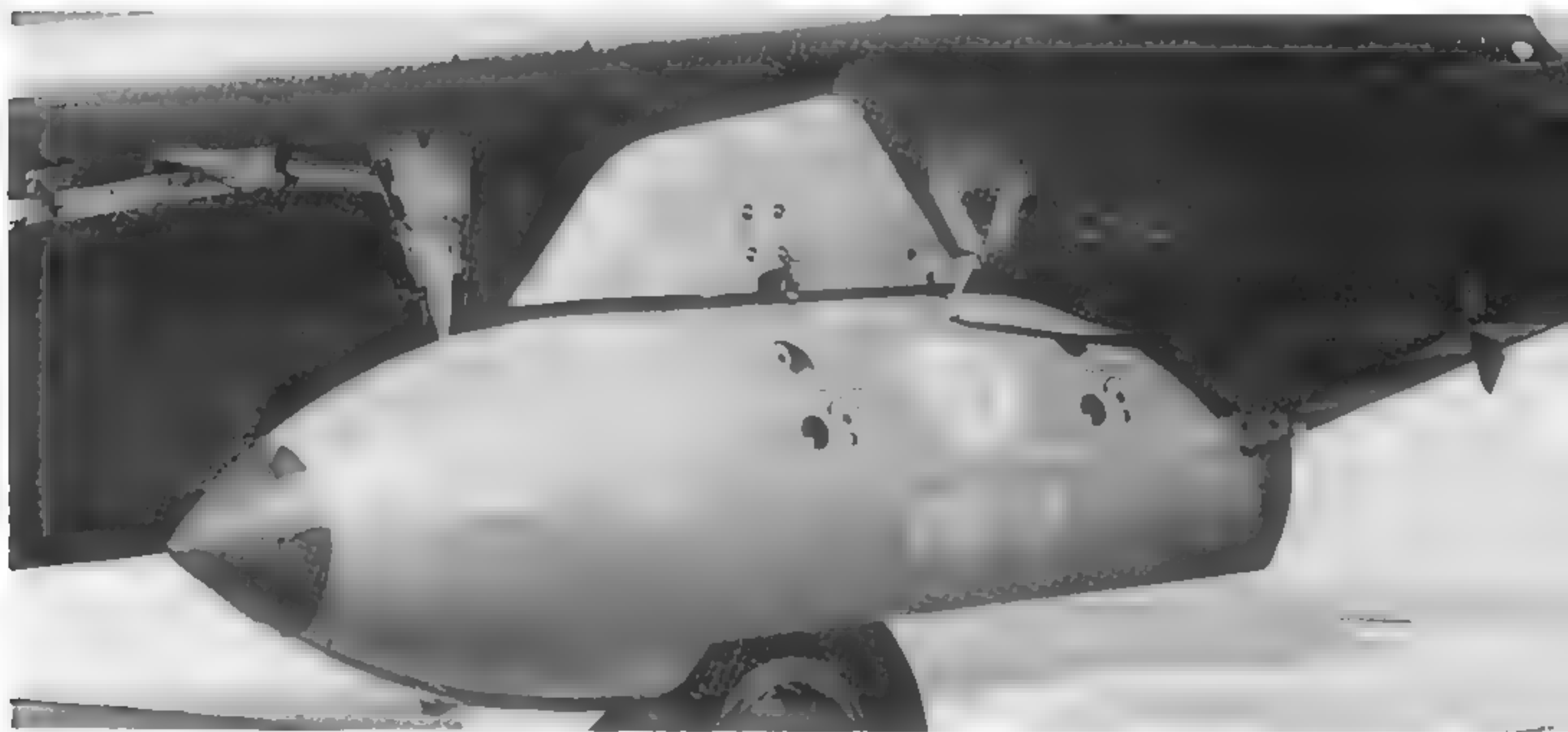
pylon (inner station) showing warning triangle (red and white), safety pin and 'plumbing' points.

Opposite page, middle: The CBLS (Carrier, Bomb, Light Store) is perhaps the most widely used RAF ordnance system, being fitted for practice sorties not only to Hawks but to all other strike aircraft. This example is finished in

glossy Dark Green, with the nose in black.

Opposite page, bottom: Rear view of the CBLS showing two of the 5lb practice bombs within the 'shoe'. The bombs are painted bright powder blue, with stencilling in white; the interior of the carrier, and the undersurfaces of the rear, angled portion, are glossy white.







Top left: Matra 155 rocket pods fitted to the second Hawk, XX156, May 1975. Each pod carries eighteen 2.7in rockets. *Richard L Ward*

Top right: Rear view of XX156's pods. Service finish is customarily Dark Green with black nosecones. *Richard L Ward*

Middle: Twin 1000lb (inner pylon) and

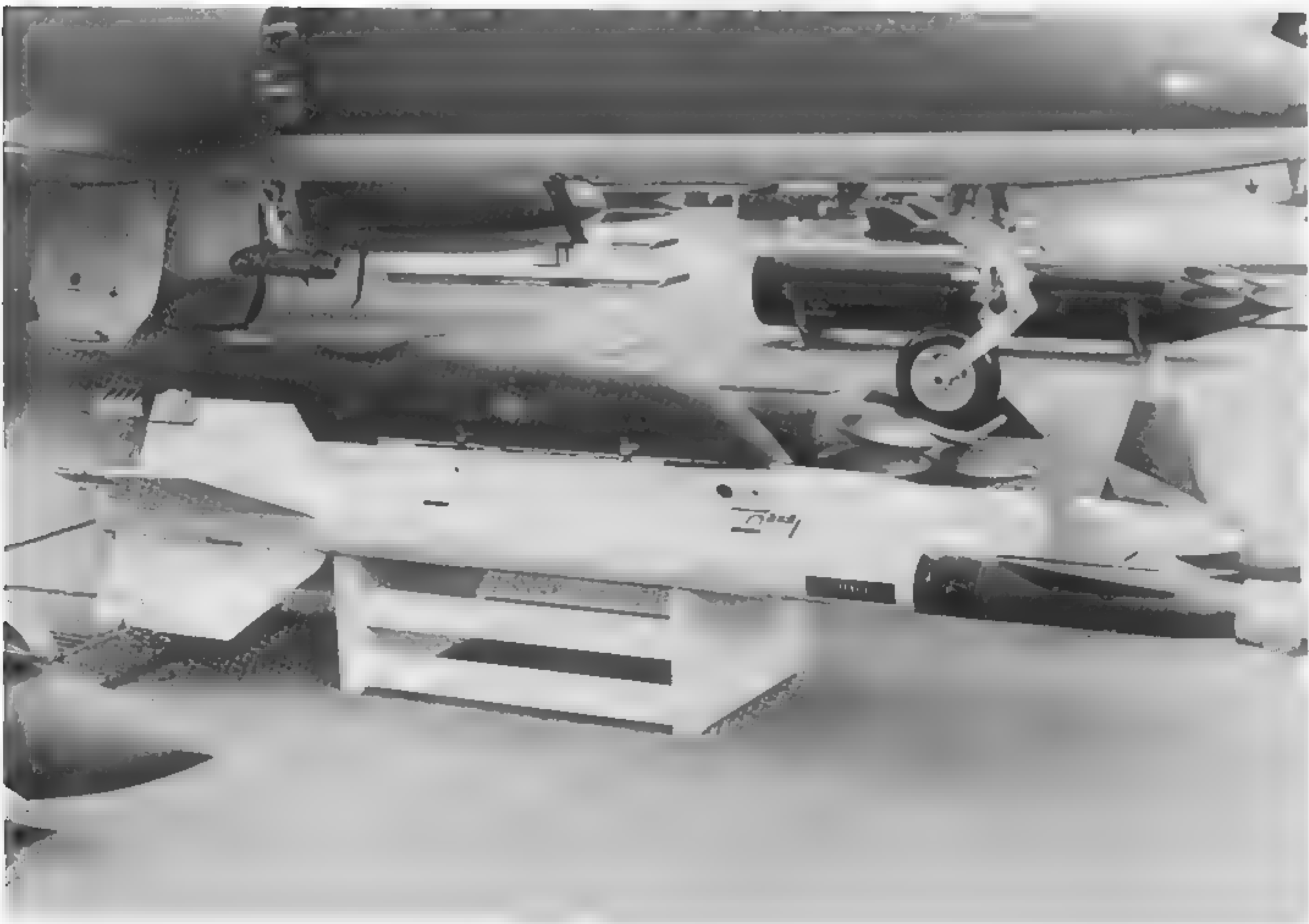
twin 550lb (outer) retarded bombs seen on a 1TWU Hawk exhibited at Paris in 1979. *Richard L Ward*

Above: Mk 60 series Hawk with 130gal drop tanks on inboard pylon and nine 80lb bombs displayed below outboard station. Note additional wing fences.

Opposite page, top: Two Mk 60 series

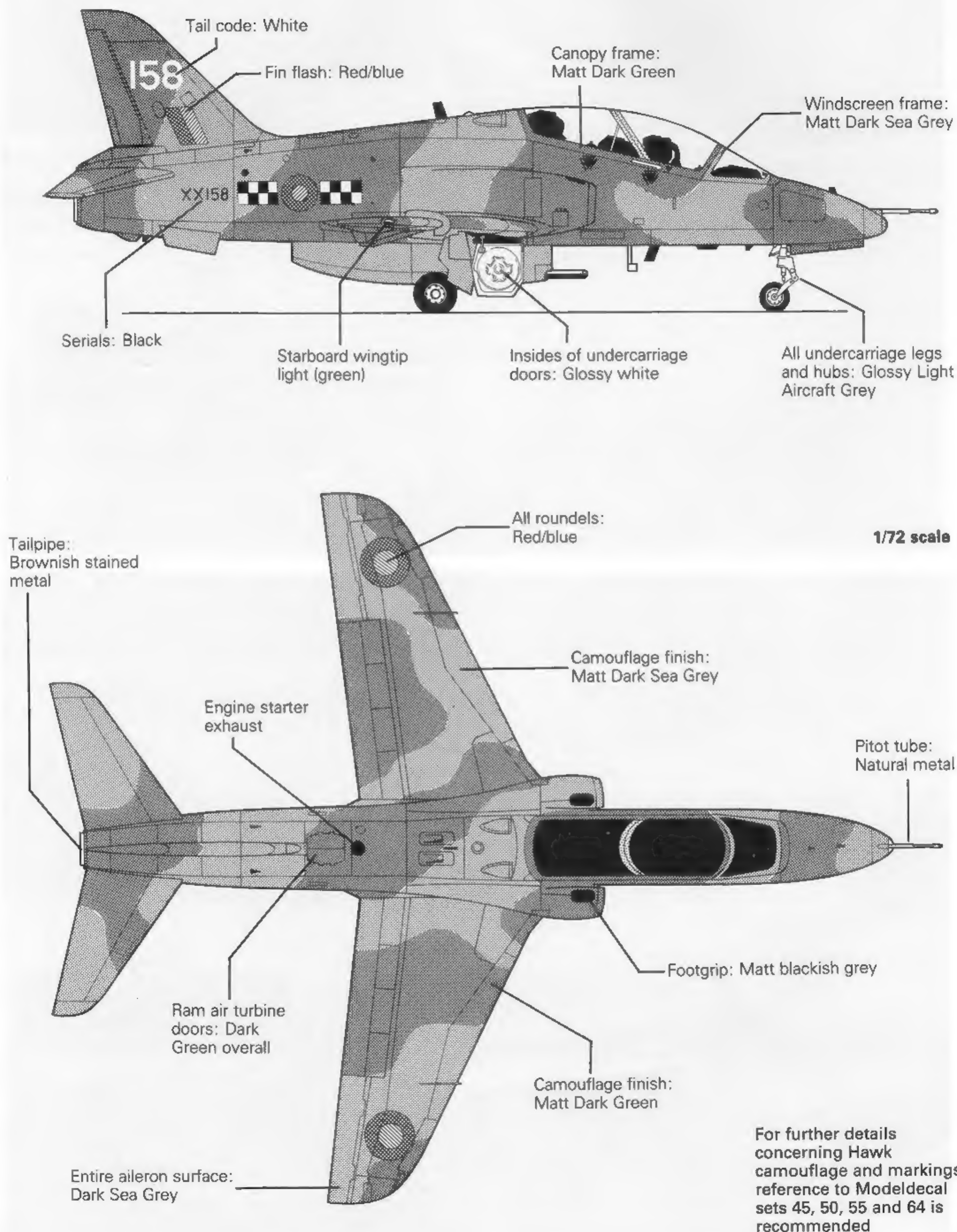
demonstrator aircraft, one in the ground attack configuration carrying eight 550lb bombs and the Aden pod and the other armed with two Sidewinders and a pair of 190gal tanks for the air defence role. *British Aerospace*

Opposite page, bottom: Close-up of Sidewinder and pylon.



SCALE COLOUR PLANS

BAe HAWK T Mk 1, No 63 SQN, RAF CHIVENOR, AUGUST 1982



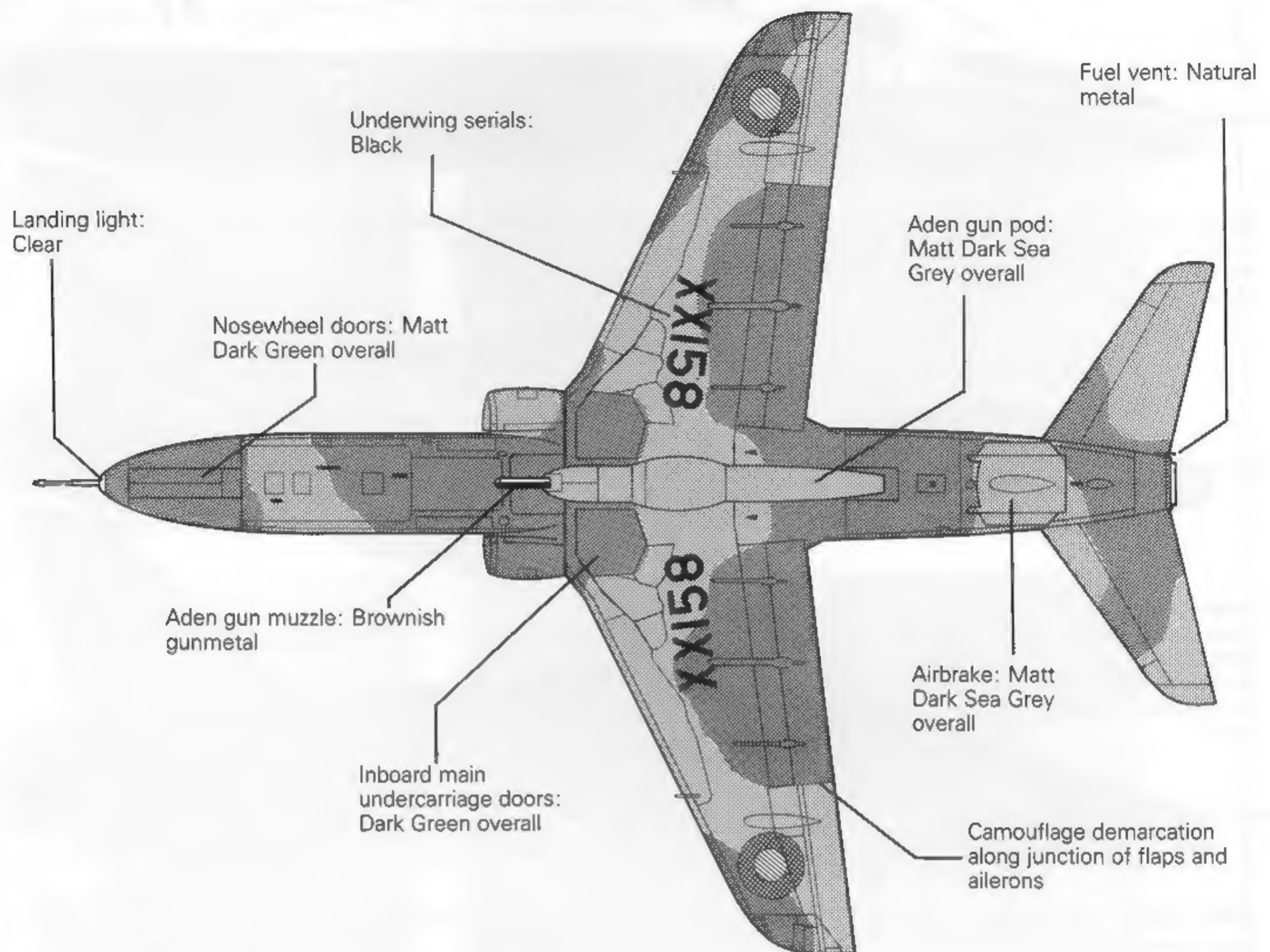
British Standard Colour (BSC) references

Dark Sea Grey: BS381C-638

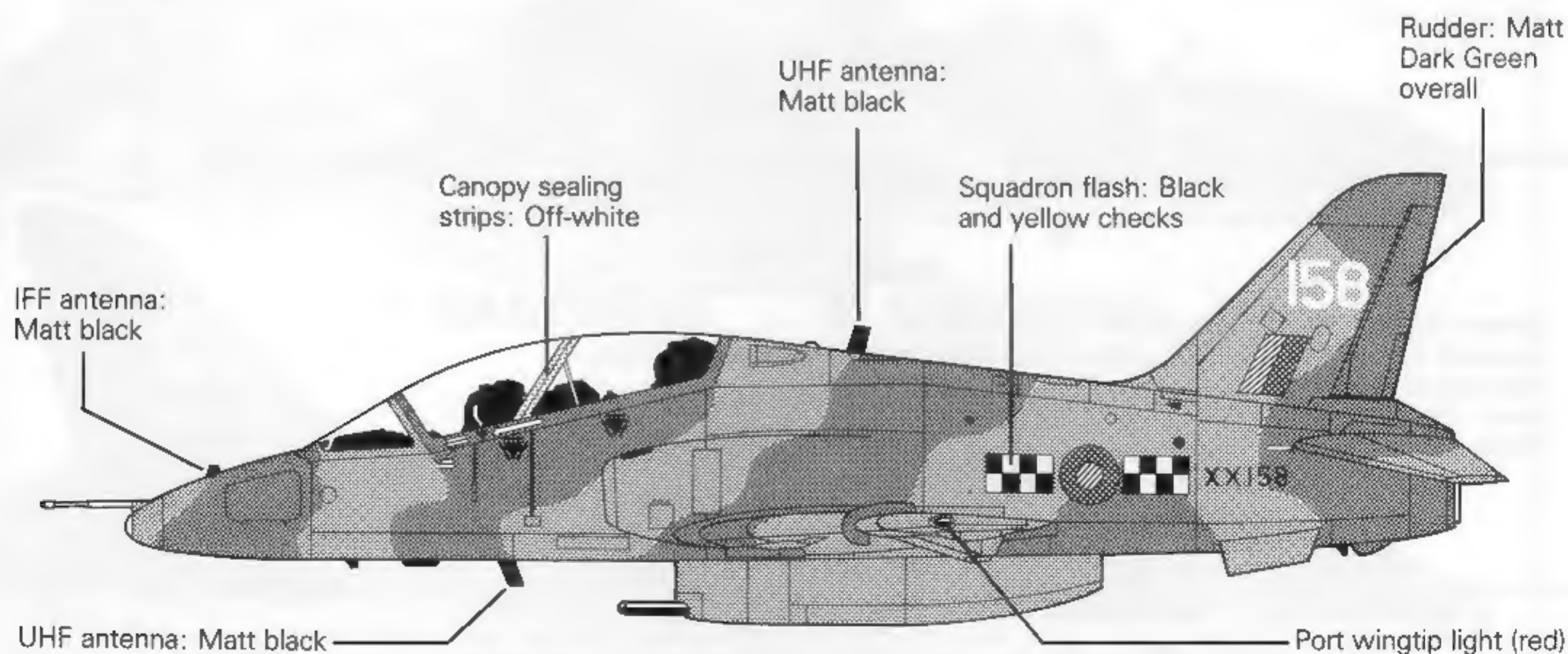
Dark Green: BS381C-641

Light Aircraft Grey: BS381C-627

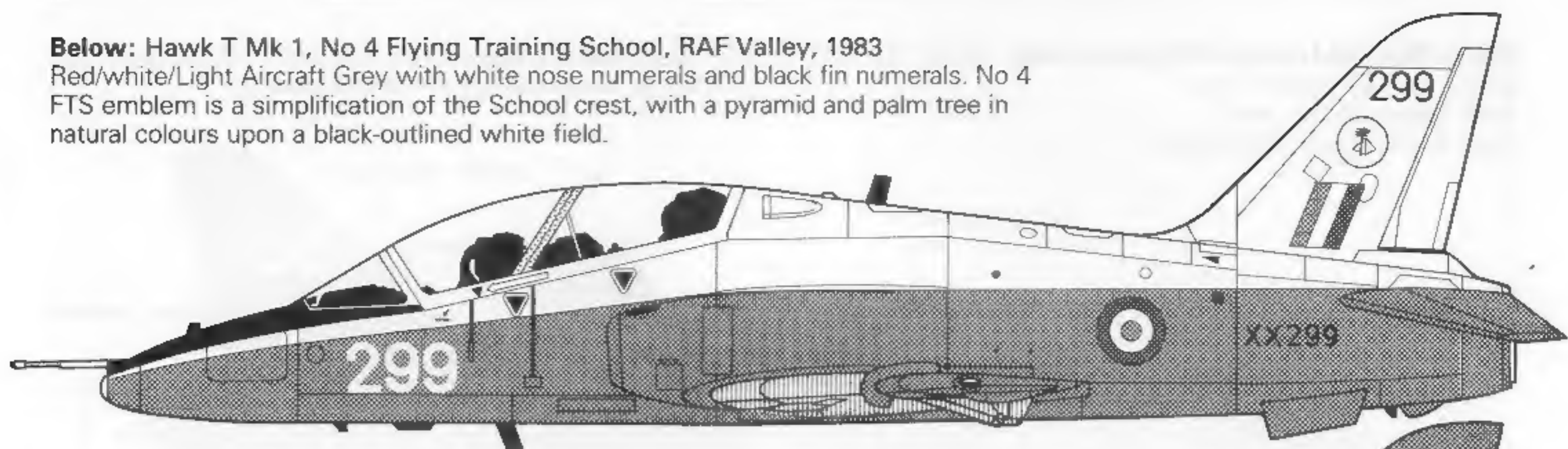
Photographs of the aircraft featured in these drawings may be found elsewhere in this booklet



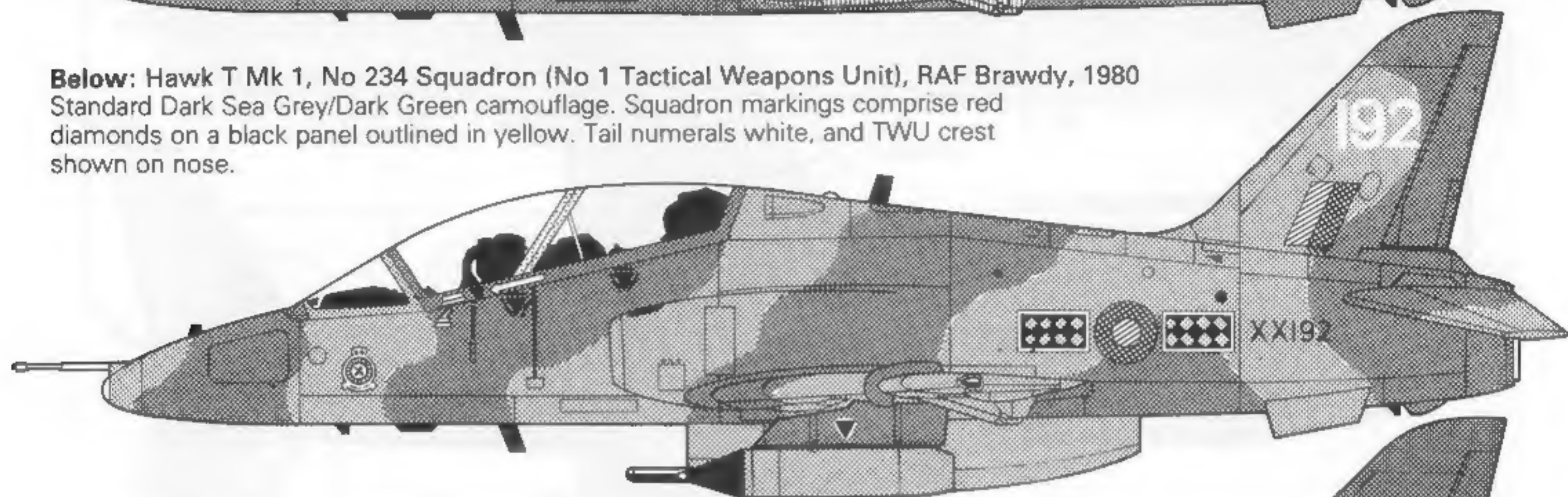
Underwing pylons (when fitted):
Matt Dark Green



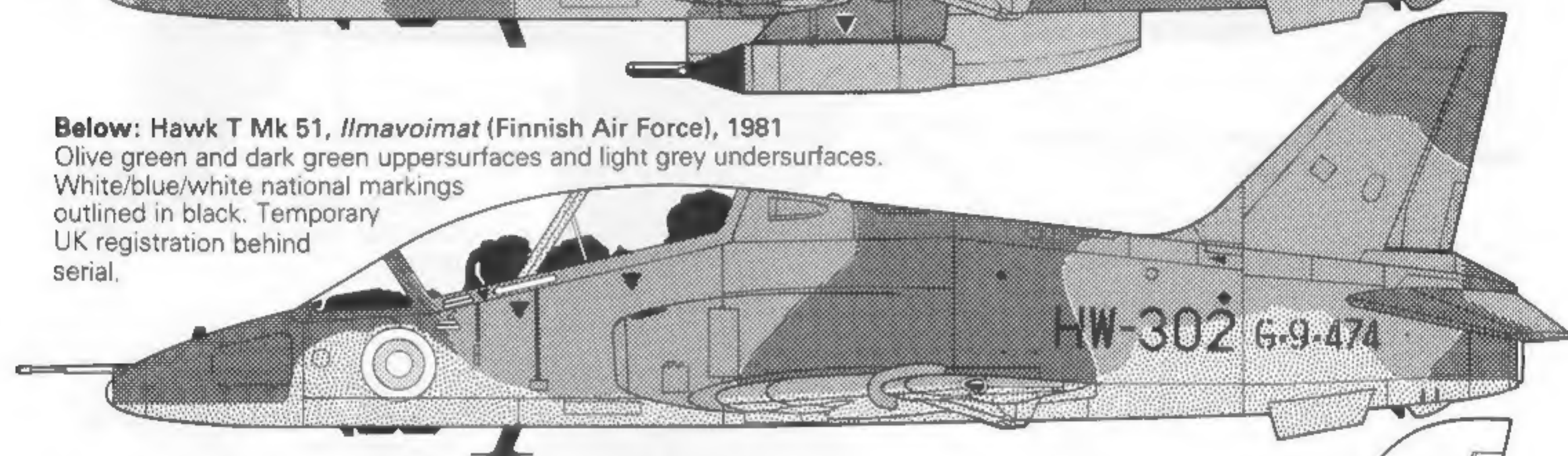
Below: Hawk T Mk 1, No 4 Flying Training School, RAF Valley, 1983
 Red/white/Light Aircraft Grey with white nose numerals and black fin numerals. No 4 FTS emblem is a simplification of the School crest, with a pyramid and palm tree in natural colours upon a black-outlined white field.



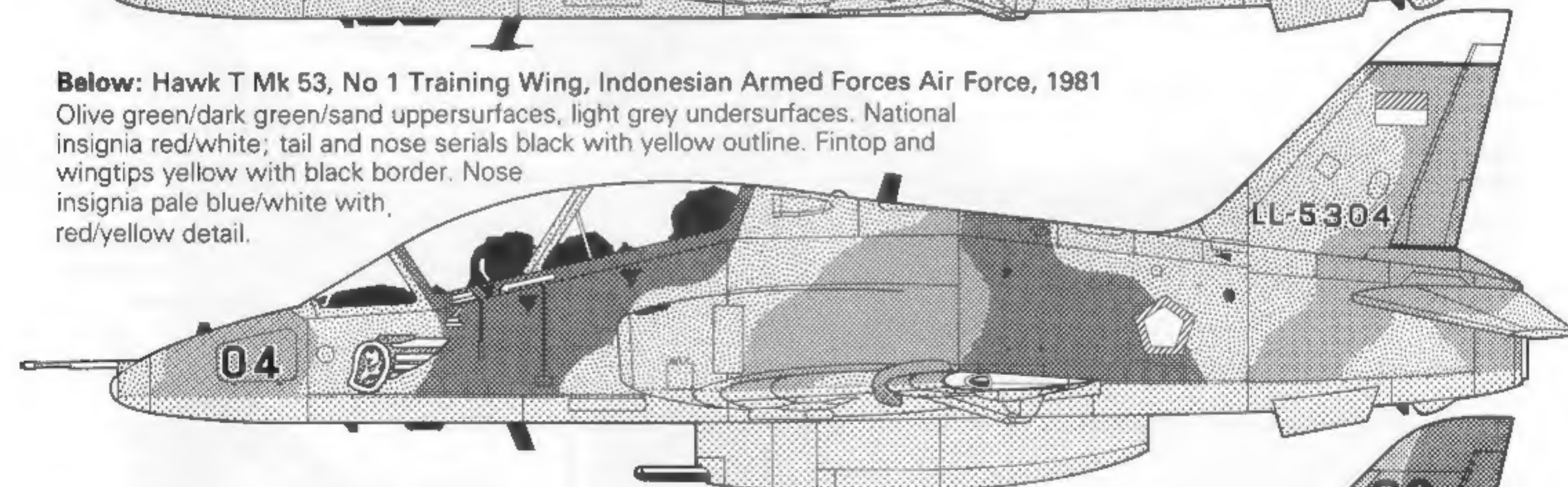
Below: Hawk T Mk 1, No 234 Squadron (No 1 Tactical Weapons Unit), RAF Brawdy, 1980
 Standard Dark Sea Grey/Dark Green camouflage. Squadron markings comprise red diamonds on a black panel outlined in yellow. Tail numerals white, and TWU crest shown on nose.



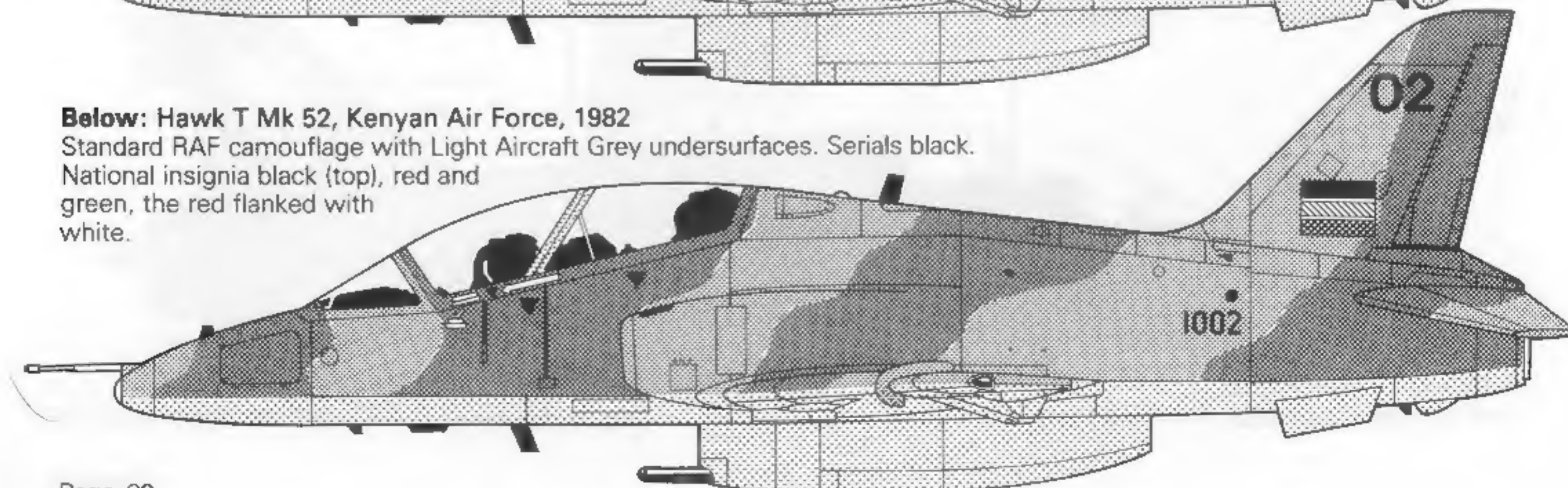
Below: Hawk T Mk 51, *Ilmavoimat* (Finnish Air Force), 1981
 Olive green and dark green uppersurfaces and light grey undersurfaces. White/blue/white national markings outlined in black. Temporary UK registration behind serial.



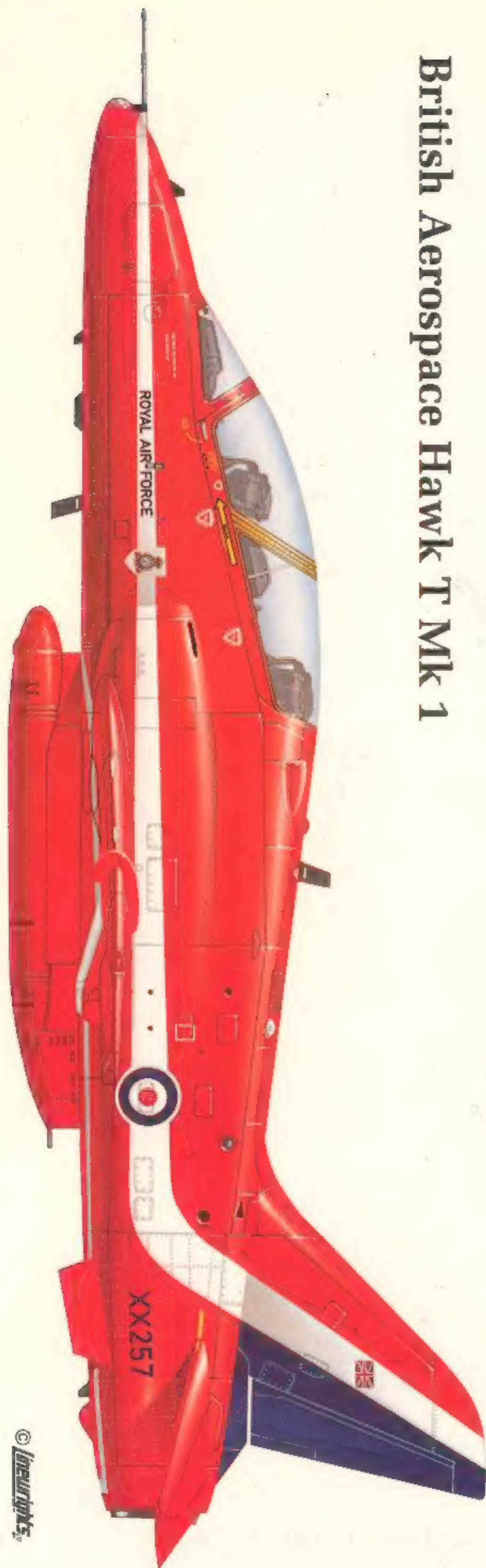
Below: Hawk T Mk 53, No 1 Training Wing, Indonesian Armed Forces Air Force, 1981
 Olive green/dark green/sand uppersurfaces, light grey undersurfaces. National insignia red/white; tail and nose serials black with yellow outline. Fintop and wingtips yellow with black border. Nose insignia pale blue/white with red/yellow detail.



Below: Hawk T Mk 52, Kenyan Air Force, 1982
 Standard RAF camouflage with Light Aircraft Grey undersurfaces. Serials black. National insignia black (top), red and green, the red flanked with white.



British Aerospace Hawk T Mk 1



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